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APRIL 1938
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PENNSYLVANIA GAME NEWS

Published monthly at 1117-1131 Wolfendale St., Pittsburgh, Pa., for Pennsylvania Game Commission, Harrisburg, Pa.
Executive and Editorial Offices, Commonwealth of Pennsylvania, Pennsylvania Game Commission, Harrisburg, Pa.

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The Game News is published each month at a yearly subscription rate of $.50 or $.10 for single copies. Club rates at $.40 per year are available to organizations and business concerns presenting 25 or more subscriptions at a single order.

Remittances must be submitted by check or money order (STAMPS NOT ACCEPTED) made payable to the Commonwealth of Pennsylvania.

Your local Game Protector, County Treasurer or sporting goods store will take your order or you may write direct to the Game Commission at Harrisburg, Pa.

Notify the Editor immediately of any change of address. Such promptness on the part of the subscriber will greatly facilitate the handling of the NEWS.

Material for each issue should be submitted not later than the FIRST OF EACH PRECEDING MONTH.

Permission to reprint will be granted providing proper credit is given.

Entered as second class matter at the Post Office of Pittsburgh, Pa., under Act of March 3, 1879.

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Vol. IX, No. 1

EDITORIAL

April, 1938

Bromley

INSURANCE POLICIES FOR WILDLIFE

Wildlife restoration in its most progressive form will constitute National and State conservation projects during 1938.

Far reaching in scope, constructive in policy, practical and economical in application and administration, the programs now underway should ultimately make of America the greatest game and fur-bearing animal producing country in the world.

Within a few months a million dollars will be made available (and subsequently more) to the several states for use in acquiring more game lands, for planting them to food and cover, and for carrying on extensive research studies for improving wildlife and its habitat.

These programs are made possible through that one great piece of farsighted legislation, the Pitman-Robertson or state-aid bill. Under the provisions of this history making act, the moneys accruing from the 10% excise tax on ammunition, which heretofore were paid into the general fund of the Federal Government, will, as of July 1, 1938, begin reverting back to the forty-eight states in pro-rata shares based on their areas and hunting populations.

The possibilities for improving wildlife conditions within the States under this bill are tremendous, and legitimate projects authorized under it will be approved rapidly if no attempt is made by anyone to apply funds for purposes other than those covered in the act.

This fact was most emphatically pointed out by Ira M. Gabrielson, Chief of the Biological Survey, at a special conference during the North American Wildlife Conference in Baltimore, in which he led a detailed discussion of the "cans" and "can'ts" of the measure.

Another thing which this farseeing piece of legislation will undoubtedly lead to is a readjustment of many of the present state conservation set-ups, viz: No state is entitled to any Federal aid if the money it receives from the sale of hunting licenses is diverted to other uses. In other words, sportsmen and others interested in conservation in states which do not now have separate "game funds" will bend every effort to have such funds earmarked so that they, too, may benefit from the state-aid bill. Never has such a splendid opportunity been afforded our less fortunate sister states. We hope they make the most of it.

This cooperative program, to which the federal government will contribute 75c for every 25c put up by the states for approved projects, will also bring the U. S. Biological Survey and the state game administrative agencies closer together than ever before. More harmony and less discord will undoubtedly result therefrom.

With enthusiasm already at fever pitch in anticipation of approved Federal aid, there also sweeps the country like wild fire a conservation movement perhaps even more far-reaching in its possibilities—the institution of National Wildlife Week, March 20 to 26. Sponsored by the National Wildlife Federation, and designed to spread the gospel of conservation to every citizen of the United States, this gigantic undertaking has already gained such powerful momentum that its inauguration as an annual event will have been unanimously acclaimed.

Pennsylvania is joining wholeheartedly in this movement, and sportsmen's clubs everywhere are urged to plan major conservation programs for Wildlife Week. They are urged to send their members into every school in their community to preach the gospel of conservation to the youth of the Commonwealth in the same manner as the American Legion sends its members into the schools to sound the keynote of Americanism. Let no stone be left unturned in furthering the great cause of wildlife restoration. It is one of our richest heritages and if we lose it the fault will be ours, and only ours.

L305748

A Farmer's Complaint

Did you ever hear of the "Deer Spotter Fan"?
If not, I'll tell you what kind of a man
He always appears to be.
He comes at night when all is still
And disturbs my sleep upon the hill
By flashing his light on me.
Across my lawn he guides his car
Into my oat field he wanders far;
He thinks this his right you see.
The deer stand still and gaze at his light
But I, alas, keep wishing the night
Could somehow be rid of this pest and his light.—

Mrs. Harry J. Granquist.

THE FEDERAL AID TO WILDLIFE RESTORATION ACT

By ALBERT M. DAY, Senior Biologist, U. S. Biological Survey

EDITOR'S NOTE: In the following article Mr. Day gives a very clear outline of the Pittman-Robertson or State-aid Bill.

Fundamental Provisions

The new law approaches the problem with the view of improving the fundamental needs of our depleted ranks of wild birds and mammals—not by placing more restrictions on hunters, employing more game wardens, or encouraging the pen-raising of birds to be liberated for sport, but by providing for the restoration of natural habitat. The language throughout the entire act speaks in terms of restoration of natural environment. It is meant to provide a means for the States to acquire and improve lands so that wildlife may reproduce normally and supply a surplus that can be harvested by hunters.

Upon the participating States the act makes it mandatory to revise the game laws where necessary, so that no funds may be diverted from the fees collected from the hunters for any other purpose than the administration of the fish and game department. This will bring about another fundamental improvement in our game-law administration structure, since in the past some States have used the sportsmen's money for all sorts of unrelated types of work, even to the purchase of books for public schools.

The act emphasizes the need for additional research into problems of wildlife management, and such investigations are clearly authorized. This, of course, is one of the crying needs of the entire wildlife-restoration problem.

Appropriations Authorized

Under the act, Congress is authorized to appropriate annually an amount not to exceed the revenue from the 10 percent excise tax on arms and ammunition. During the fiscal year 1937 this tax amounted to about $3,250,000. The President, in his budget submitted to Congress for the fiscal year beginning next July 1, included an item of $1,000,000 to get the program started. After deductions for administering the act, the funds are apportioned to the States, half in the ratio of the land area of each State to the United States as a whole, and half in the ratio of the number of the State's paid hunting-license holders to the total number of hunters in all States. The States must contribute $1 for each $3 of Federal funds. Provision is made that no State may receive more than $150,000 a year of Federal money, and that a State for which the apportionment is less than $15,000 may receive that amount by allotting $5,000 to match the Federal funds.

When the funds are apportioned, and the States advise the Secretary of Agriculture that they wish to participate, the money for that State is set aside and obligations are incurred on the basis of definite projects. Should any State not desire to participate, or if there is a balance of funds at the end of a two-year period, provision is made that such unused moneys shall become available for use in administering the Migratory Bird Conservation Act for the acquisition of lands for the general waterfowl-restoration program.

Functions of the Biological Survey

The law provides that each individual project must be approved by the Secretary of Agriculture. To this end the Biological Survey has been holding regional meetings throughout the United States with the representatives of the various State fish and game departments to discuss plans and proposed rules and regulations.

The game departments will be chiefly responsible for the types of projects submitted. The Biological Survey will act merely as an agency to assist the States in setting up the projects, to see that they are properly executed, and to keep the proposals in line with Federal laws and regulations. Since the bulk of the money going into the program will be drawn from the Federal treasury, great care must be taken to see that expenditures are made in accordance with Federal laws. It is planned that a representative will be assigned to each of the Bureau's nine regional offices to work with the State game departments in selecting projects, drawing up plans and specifications, and following the acquisition and development work through to completing.

Permissible Restoration Projects

The chief interest at the present time seems to be in the type of projects that will be permissible under the terms of the act. For the initiation of the work, it will be well for all parties concerned to plan for projects that are clearly intended under the language and terms of the act and to stay as far away from doubtful and borderline proposals as possible. It will take some time to perfect machinery to approve the projects, clear vouchers for payment, and make certain that the work is being carried on in accordance with Federal procedure. For this reason, it would be most unwise to begin with a variety of doubtful types of projects. Rather, only those should be chosen that are clearly within the purposes of the act and that will be least subject to question.



Land development to make it more suitable for wildlife is a worthy project to undertake. Food plantings on State Game Lands.

While there is now no way of determining definitely the extent of the projects that may ultimately come within the program, several types are so clearly indicated that there can be no question about them. These are:

1. The purchase of land for wildlife-rehabilitation purposes.

2. The development of land to make it more suitable for wild mammals and birds. This may be the development either of newly acquired lands or of areas already in public ownership. Development could fairly be interpreted to include anything that would make better wildlife management possible, but each project should center particularly around environmental improvement by food and cover planting, water stabilization, or any other activity necessary to make the land better suited to wildlife occupancy.

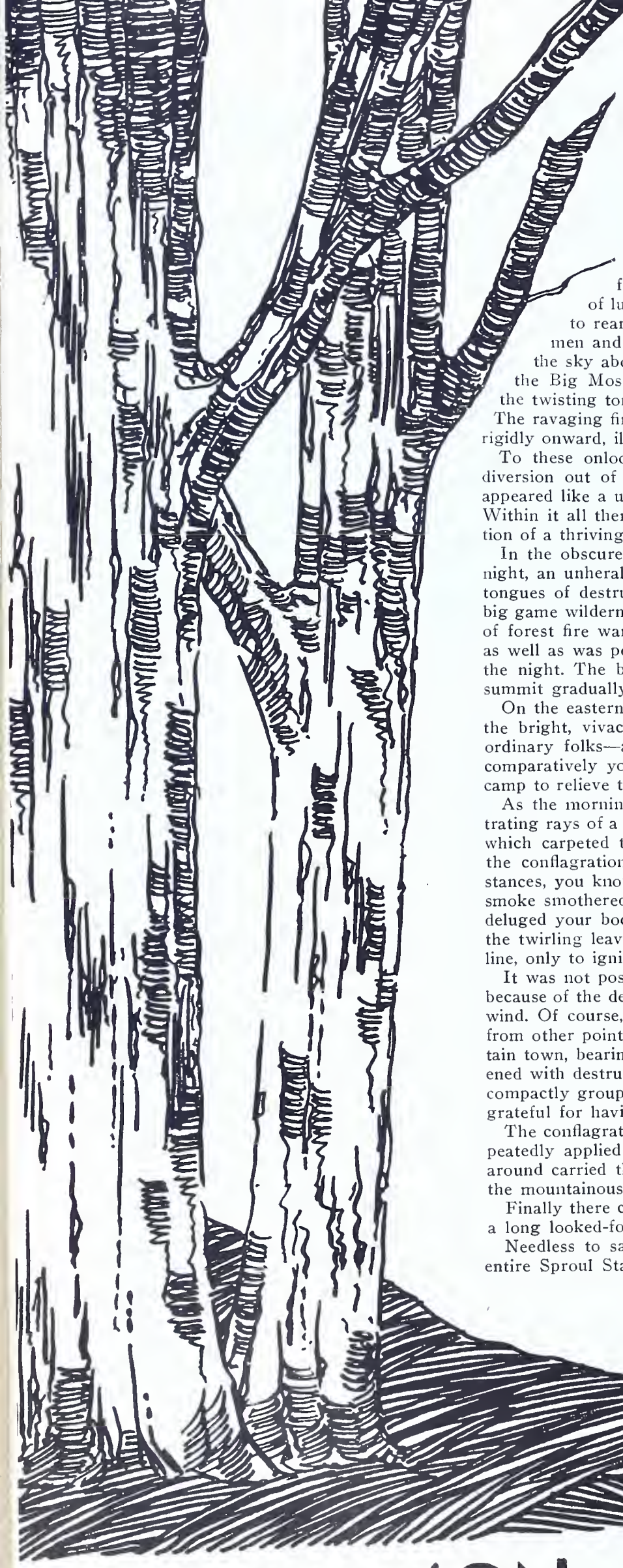
3. Research projects set up on a definite basis and directed to the solution of problems that stand in the way of wildlife restoration. These should include the determining of unknown factors in management, in feeding habits, or in interrelationships with other species, with livestock, or with any other of the innumerable things that enter into a wildlife management program. Obviously, to prevent overlapping and duplication, the research work undertaken must be correlated with the existing research programs of the Federal Government and the States.

Many other types of projects might come under these programs, but for the first year it will be to the advantage of all concerned to limit projects to those that cannot be questioned from any standpoint. Every State certainly has a number of projects that can be cleared without question, so that there should be little difficulty in finding worthwhile work under such projects, at least for the first year or so.

State Maintenance of Acquisition

Land purchased under the terms of the act becomes the property of the States and must be maintained by them. No maintenance of any project may be charged against these funds but must be paid

(Continued on page 31)



RED DEMON of the WOODS

By S.V. SEDLAK

HIGH up near the Moshannon mountain summit where a state highway passes through, where thousands of tons of jagged rock were blasted out to provide a right of way for public travel, on a spot that affords a commanding view of the distance, a score of transient and local motorists had stopped and congregated to view a spectacle which was awe-inspiring.

The time was a night, early in the spring a few years ago. Cloudless, calm and generally typical of the spring season, when nature was just awakening from an inanimate winter nap, bringing forth the bursting green buds to bedeck the woodland with a canopy of luxuriant green, when the wild creatures were bringing forth their young to rear and to grace the vast domain so highly endeared by all good sportsmen and nature lovers. Canopied beneath a myriad of tiny, twinkling stars by the sky above, this curious people looked out from an advantageous point, across the Big Moshannon Creek which divided mountain from mountain, and observed the twisting tongues of merciless flame eating away a picturesque woodland.

The ravaging fire, although bridled somewhat by the cool, moist night air, plied its way rigidly onward, illuminating the pallor of darkness about.

To these onlookers who scanned about and marveled, this aspect only presented a diversion out of the ordinary. The flickering lights bursting anew, hither and thither, appeared like a unique ostentatious show, but in reality it was a catastrophe in the wild. Within it all there was agony and death to countless valued wild creatures and demolition of a thriving forest—an undeserved loss to game conservation.

In the obscured darkness beyond the range of visibility, secreted in the depth of the night, an unheralded army of C.C.C. boys fought incessantly to bring under control the tongues of destruction. During the long night hours these gallant lads labored that the big game wilderness on every side might be spared; their work, under the able command of forest fire wardens, with the aid of modern forest fire-fighting equipment progressed as well as was possible in the face of many obstacles that occur to hinder proficiency in the night. The battle between man and fire went on, while the curious crowd on the summit gradually dwindled in number and finally dispersed altogether.

On the eastern horizon the light of a new day commenced to show; and an hour later the bright, vivacious redness of the sunrise denoted—what is generally not known to ordinary folks—a promise of windy weather, and perhaps a storm. The day was still comparatively young when another unit of the C.C.C. arrived in trucks from a distant camp to relieve the fatigued night army.

As the morning waned, the moisture-ladened forest dried fast under the warm, penetrating rays of a spring sun; soon strong winds started to fan and frolic the curled leaves which carpeted the forest floor so copiously, but this only added to the furiousness of the conflagration. If you, kind reader, ever fought a forest fire under similar circumstances, you know how discouraging your task appeared; you know how the suffocating smoke smothered you, how your eyes swelled and watered; you know how perspiration deluged your body—such was the experience encountered here; and too, in this instance the twirling leaves carried sparks of fire up into the air, high and wide, across the fireline, only to ignite more forest floor and complicate the work.

It was not possible to trace and extinguish every new outbreak as soon as it occurred because of the density of the heavy smoke clouds which surged menacingly with the high wind. Of course, the burdensome work of controlling vicious flames had to be renewed from other points of vantage. The situation became so serious that even a nearby mountain town, bearing the same name as the afore-mentioned summit and creek, was threatened with destruction. Living up on a broad plateau in about one hundred wooden homes compactly grouped and surrounded on every side by the forest itself, the villagers were grateful for having escaped with only the loss of two or three buildings.

The conflagration continued to free itself of the repressive measures which the boys repeatedly applied in hope of attaining suppression. For days the atmosphere for miles around carried the smell of the burning forest; for days the smoke clouds hovered over the mountainous country.

Finally there came a noted change in the weather; a mild, damp wind, and on its wings a long looked-for, welcomed visitant—rain—a spring shower; a Godsend!

Needless to say, the fire, the red demon which threatened so mercilessly to ruin the entire Sproul State Forest, met its Waterloo. But only after leaving in its wake, death,

(Continued on page 30)

ARCHERY AS A SPORT

By DR. R. P. ELMER

EDITOR'S NOTE: The author of this article is an accomplished artist with the bow and has been very instrumental in keeping the sport alive for over twenty years. He has been champion archer of the United States eight time, was the author of American Archery for 1918, 1925 and 1932, and has prepared the description of archery for the Encyclopedia Britannica and Webster's Dictionary. We are indeed glad to welcome such a distinguished guest writer to our columns.

IF we try to trace the history of anything, we like to find the beginning, but who, for instance, would be bold enough to say when running and wrestling commenced? Who was the first man, or ape, or whatever beyond that who ran away from or after an enemy, or, when met, grappled with him and wrestled to the death?

For archery we have to take a perspective along similar vistas of immeasurable length. At a time so remote that the glaciers reached as far south as where Scranton and New York now stand—Heaven knows how many tens of thousands of years ago—men were already so far advanced in the manufacture of archery tackle that they made stone arrow points of such beauty and perfection of design that few can match them today.

We are apt to think of stone arrow heads as being coincident with the beginning of archery itself, but that idea is far from the truth. It is an undoubted fact that the first improvement in a crude stick which a primitive man would make in order to fit it better for the purpose of penetration would be the same that a boy will make.

This brings to mind the favorite scholastic adage that ontogeny recapitulates phylogeny—in plain words: the development of the individual repeats the development of the race.

If you wish to know what the first savage genius did when his mind conceived of a bow, just remember the first efforts of your childhood. Did you not take a branch or small sapling, trim off the leaves and small shoots, and, without further shaping, tie a bit of string from end to end? And did you not wonder how you could overcome the annoying fact that the thick end bent not at all while the thin end bent too much?

Nevertheless, the thing would shoot. When you cut off a mullein stalk or cat-tail or straight twig and—pinching it firmly to the cord between your knuckle and thumb—drew it back in excited expectancy and let go, did it not thrill your little heart with a vast parabola of perhaps as much as twenty feet?

Now please don't spoil my story by saying that you made your first bow out of an umbrella steel.

And when your crude arrow failed to stick in the side of the hill or to bury itself in the hay-stack, what did you do—make a beautiful flint point by hours of skilled labor? No, you sharpened the end by whittling it.

Some archaeologists think that the time which elapsed between the use of the first arrow and the making of the first flint point may have been as great as all the long period since then. Just consider what that would mean if the two were added. The only way we have to know that men were archers before the last glacial period is by the finding of their stone arrowheads. At a minimum let us set that at fifty thousand years. Then the headless arrows would date back for an equal length of time, or a hundred thousand years. Is that too much? In my opinion it is not enough to fit the probable facts.

It is astonishing how slowly precedents change. There are savages in the world today who still make their bows thicker toward one end—evidently preserving the form of the unshaped branch—whereas all experience shows that such weapons will not shoot nearly as well as those which have both limbs—or halves—approximately the same.

There are thousands of African and South American natives who still use arrows which either have heads of wood or merely are sharpened on the end. I own a number of them myself. The practice of using them is, however, not merely one of tradition, but rather is prompted by motives of convenience and economy.

And this brings us to a consideration of the efficiency of a well made stone arrowhead, let us say: made of a material like flint or obsidian which will fracture with a cutting edge.

To find out by practical tests exactly what primitive man, including the American Indian, was up against when he shot his stone-



A reproduction of the medal to be awarded by the Pa. State Archery Association to any hunter who brings down a deer by bow and arrow within the State.

tipped shafts against the thick hide of a buffalo or grizzly bear, the late Doctor Pope of San Francisco made exhaustive experiments. Naturally, he had supposed—as we all would—that an arrowhead of steel and sharpened to a razor edge would have a much greater power of penetration than one chipped out of stone. Nevertheless, to make sure, he bought a large piece of carcass from the butcher and hung it up for a target.

In every respect except the tips the arrows were alike, but some were headed with razor-edged steel, some with saw-edged steel and the rest with heads of stone or glass. In the making of the last variety he had the invaluable assistance of a man who was probably the last Indian left in this country who had never come into contact with a white man for nearly all of his life, and who, therefore, still preserved the aboriginal arts of his race. This Indian—named Ishi—could make arrowheads of artificial glass or the natural volcanic glass called obsidian, that were perfect enough to be classed as jewels. I own several of them.

So, when Pope shot all three kinds of arrows at the dead steer, or part of him, what was his surprise to find that the arrow which penetrated least of all was the one which he had confidently expected to be the best—the steel head of razor edge. Next best was the saw edged steel but best of all was the stone head.

In chipping those flint or obsidian heads, the worker presses off a flake from first one side and then the other of the same edge. This results in a series of curves which suggest the print of a skater on the ice. The cutting ability of such an edge is so notable that many bread knives and other modern utensils imitate it.

The chief limitation of the stone head in practice is the practical certainty of fracture if it misses its mark and hits a tree or rock. But, as every ill carries its blessing, this may have been one of the factors that made the men who used them such good hunters. If the archer knew that an unprofitable shot meant not only an unharmed animal but also an hour or two of work in making a new arrow head, he was apt to get near enough to be certain of success before he discharged his bow.

And above all else this same idea of hunting by skill of personal prowess rather than by mechanical assistance is what still influences every bowman of modern times. There is no such thing as spying a mountain goat through glasses on the opposite side of a wide valley, resting a rifle on a rock and pulling the trigger as one peers through a telescopic sight. Animal murder is the best name for such practices. One mountain goat—that wariest of American game which is shot by the primitive weapon of "two sticks and a piece of string," means a degree of skill that would shame twenty or more successful shots with a rifle.

Archery is very difficult. But by that very obstacle the best that a man has is challenged. If he is one whose lust is only for death, or who measures the success of hunting by the amount of meat it brings—he has no right to hold a bow. If he wishes to fight against wild things with weapons that just about neutralize the physical disparity between himself and his quarry, if he is proud enough to believe that modern man is as good as man ever was: then he has in him the stuff of which archers are made.

THE NATURALIST'S DEBT TO THE SPORTSMAN

By DR. GEORGE MIKSCH SUTTON

FOR years, nature-study and a fervent desire to increase knowledge of and protection for our furred and feathered friends have been the chief aims of many organizations and individuals.

Naturalists, both amateur and professional, and more particularly perhaps, organized Bird and Nature Study Clubs, are usually opposed to hunting. This opposition finds root in a sincere and altruistic desire to improve the world, to abolish slaughter, bloodshed, and savagery, and to allow beautiful and attractive creatures to exist unmolested upon the earth. The modern hunter, not as the citizen that he is, but as the hunter, is frowned upon, and called either thoughtless or bloodthirsty by these enthusiastic protectionists.

No hunter will for a minute try to conceal the fact that he takes life when he shoots a game bird or animal. And when we think of the splendid creatures whose hardihood and intelligence alone make them the valued game that they are, we are forced to ponder a minute, and perhaps to question the right of the hunter to take that life, so long as the flesh of the creatures is not actually needed to keep human beings from starving.

The hunter will not, I believe, try to tell us that his shooting causes no pain. Wounded and dying birds and animals doubtless suffer pain as do all other creatures whose nervous systems ramify the body.

But when we resent this killing of game by the hunter we may easily forget that the stern program of the earth ever since the inception of life has been a merciless, bloody program. Nearly every meal we eat means death somehow, somewhere. All creatures live upon other organisms. Therefore, viewed biologically, the death or suffering of game animals should not alarm us more than the daily routine of existence everywhere about us.

What does concern us about hunting must be, therefore, not so much the fact of death, as the reasons for and results of this death. Naturalists feel that the hunter often kills wantonly, and that the death of these beautiful creatures is therefore unwarranted.

The killing of game does seem at times unnecessary. And every sportsman knows that there are "game hogs" who kill and kill, beyond the limits of necessity or decency, without a thought of the pain and death he may be causing, without the slightest consideration for economy, or the sport of the other fellow. But the average hunter is not a "game hog." The average hunter is an embryonic naturalist, who has genuine interest in the welfare of the creatures he hunts. When he shoots game he does so not so much to kill as to match his wits against those of the wary wild creatures which often escape. Everywhere may be seen evidence of this interest in the sporting phase of hunting. Over and over again, in regions where game birds have just been released, hunters have been heard to say "I wouldn't shoot at those birds; they don't know yet who I am, or what I'm after." The real sportsman wants the game to have its chance. It has been said that "any fool with a gun can shoot a bird." It takes more than a fool to pursue and capture some birds, however, and our average hunter is no fool.

As naturalists we are inclined to feel that shooting game is unnecessary and cruel in this land of plenty. Why? Principally because we, as nature students, far prefer to observe these creatures in life and to protect them. This study is our sport and passion. Can we fairly expect every man, who may not have quite so intense a passion for observation, to lay down his gun, and take up the note-book, field-glass and camera? Not always, I believe. The carrying and use of the gun, the comradeship of dogs, the excitement of shooting and of "running the race" with wild creatures means everything to some men. If their guns were taken away from them, even the beauties of the marvelous outdoors might pall. If we plead that such men be denied this sport as they see it, are we, in the last analysis, truly great naturalists, or are we principally selfish, and displeased that the whole world does not agree with our precepts?

Sometimes, I fear, we are selfish. The citizen of this nation who fairly shoulders his burdens during most of the year has a well earned right to recreation, and moreover, to any plausible recreation that it is possible for him to enjoy. If his recreation is outlined too rigidly for him, it ceases to be recreation. I am not entering an argument here upon personal liberty and I am speaking of recognized healthful outdoor pastime. If men need the gun, dogs, and game to take them to the woods for a glorious week or two, do we not as a people profit thereby? Are not our citizen-hunters more powerful, more finely tempered, and more sensitive to the beauty of creation, because of outdoor contacts? In other words, isn't it worth the life of many rabbits, grouse, bob-whites, and other game birds and animals to be able to realize that we are a race of enthusiastic, hearty outdoorsmen instead of a stuffy lot of office workers? Were these men to be denied this primitive form of sport, they would doubtless, true to their optimistic natures, turn to



A group of sportsmen about to start on an extensive wildlife feeding trip. This is now one of winter's greatest sports.

other outdoor activity or develop a saving philosophy; but philosophy, fine as it is can never take the place of ruddy cheeks, strong legs, and a hearty appetite; and it is questionable whether a complete annihilation of the hunting instinct is advisable for a virile people.

When a handsome Ruffed Grouse gives up its life we regret exceedingly that the bird dies; but we look at the average hunter and cannot help marking that as he picks up the bird he has added a bit of poise and assurance that will help to make him a better American; he has noted the beauty of the bird's soft plumage, and in spite of himself has become somewhat of an artist; and as he pats his eager and friendly dog on the head, he is somehow becoming a greater human being. Here is not, therefore, merely a killer for you, but a developing personality, who by his experience afield is being a better rounded and more dependable citizen. Incidentally, men who know best the use of firearms are best able to protect their country quickly if the need arises.

It will be thought by some that I have idealized the hunter, but frankly, I have known too many hunters, and have been with them afield too much, to be blind to the fact that most of them are actually naturalists at heart, with a genuine interest in the creatures of field and wood, and an admiration for their intelligence and beauty.

Suppose we grant that the existence of the modern hunter is justified. With the tremendous army of 600,000 sportsmen in such a State as my own Pennsylvania it may readily be seen that a comparatively large proportion of our population depends upon a fall trip into the wilds for recreation.

We naturalists have so long regarded this body of men as killers that we often forget that we are indebted to them and to them alone, for every bit of concrete protection that is afforded the creatures we desire to protect. Sportsmen-conservationists are almost wholly responsible for the laws on our statute books protecting birds, or animals and it is the sportsmen's money put to use in law enforcement that keeps the unenlightened foreigner or citizen of our own country from destroying our song and insectivorous birds. We have talked and published articles upon wildlife protection until we have, perhaps, reached the point of self-satisfaction, but we must admit that it is not so much our occasional talking or remote article that reaches the public, as it is the news that someone has paid a penalty for violating a law. It may not be ideal that this be true, but money talks here, as elsewhere. And the fact that one or two foreigners in a certain section have been brought face to face with the stern reality of payment for law violations, has been principally responsible for the respect that those foreigners have for our song birds at the present time. It is to be wished, of course, that law enforcement were not necessary; and it often seems that the jailing of an offender, or the extraction of a fine is a negative part of conservation work. But fines will have to be exacted until respect for law is gained. Finally the violator will learn that obedience of the law is what he himself after all most desires, and what is really best for him and humanity in general.

Not only are the sportsmen thus providing all the actual protection that is afforded for our birds and animals, but they are, through the State Game Departments constantly adding to the game refuge lands, within whose boundaries wildlife finds an absolute sanctuary. We as naturalists can plead for such sanctuaries, and can occasionally bring about the establishment of them. But here again the sportsmen's money has loudly spoken, and has made possible many havens wherein the wildlife is strictly and personally protected.

During winter the men of most State Game Departments feed the birds and game. We bird lovers take our hikes and put out food for local birds, and thereby do some good; but it is the States' regular agents in the far recesses of mountain and valley who reach the creatures that would certainly perish were not food given to them. This feeding program in a number of States is really vast in its extent, and it includes not only the winter supply of grain, but it means constructive planting of food-bearing shrubs and trees, and of suitable food for wild waterfowl in the streams, ponds and lakes. Call this feeding program selfish if we will, since game birds and animals are of first consideration, nevertheless it cannot be denied that all wild life benefits thereby.

As naturalists we are opposed to stray house cats which destroy birds, and to a degree also to wild cats, foxes, weasels and such predatory species which cause heavy mortality among game animals, song and insectivorous birds. The control of these so-called "vermin" species is encouraged and managed by all well organized State Game Departments, and were it not for their wisely conducted campaigns, which are under intelligent supervision, predatory species would be overwhelmingly destructive in some sections.



Sportsmen are constantly establishing Game Refuges where wildlife finds absolute sanctuary.

Eighteen bird houses built and displayed by sportsmen in an effort to increase interest in bird lore.

Lastly, and to me the greatest service of all, the hunters of most States, through their Game Departments, are sponsoring an educational program through which the people at large receive information concerning the out-of-doors. This educational work seeks not so much to spread propaganda, as to tell the truth. It seeks to give the public reasons for valuing and preserving our wildlife, and to bring the people gradually to the point where enforcement of law is no longer necessary, where the sentiment of the public itself controls the action of the individual. Such educational bureaus furnish newspaper items, lectures illustrated with slides and motion pictures, bulletins on all phases of wild life preservation, and gladly welcome and answer questions concerning our birds and animals. And the hunters are paying for this service also, realizing that in so doing, the public will eventually come to appreciate its heritage of wildlife, and will do all possible to protect it.

We naturalists owe a great deal to the several Game Commissions of these United States, and to the Federal game authorities, for the active program of protection and education which they have carried on. And we should bear in mind when we see our friend the hunter marching through the woods, gun on his shoulder, that he too is at heart a naturalist, and that he will do his utmost to preserve our wildlife, even if, ultimately, it means that he must lay down his gun and keep the dogs at home.

The men of the State Game Departments, who represent the hunters of the nation, are men of high calibre. Through these men and their staffs the sportsmen are watchfully keeping our nation "safe" for its wildlife, with the hope that future years may find an abundance not only of game for sport, but of other interesting and beautiful creatures which every naturalist delights to seek and observe.





PREPARING FOR YOUR RINGNECK EGGS AND CHICKS

By CHARLES W. WESSELL

EACH spring and summer, in steadily increasing numbers, Pennsylvania sportsmen enter upon ringneck pheasant propagation activities with varying success. Many individuals and associations, backed by previous experience and adequate equipment, bring through to [happy] maturity a good percentage of the day-old chicks received, or of the chicks hatched from eggs received. Others with no previous experience have successfully raised a considerable number of pheasants by following closely instructions given in the Commission's two hatching and rearing bulletins.

Advance Preparation Necessary

However, there are also a great many well-meaning sportsmen who order more hatching eggs or day-old chicks than their time, experience, equipment, space and finances will enable them to properly care for, and the result is always the same—huge losses and bitter discouragement.

It may be wise, then, to give more thought to determining the number of eggs or chicks required and to the many necessary provisions and preparations the individual or association must make, if the pheasants are to be raised successfully.

It is better by far to order too few than too many eggs or chicks. Better to receive 100 chicks and raise a majority of them, than to order 300 and lose them all through inexperience, inadequate equipment, overcrowding, disease, etc. Yet more than once have such tragedies occurred, which could have been avoided had the sportsmen been better prepared or had realized that they were attempting to raise too many birds with the equipment at hand.

Bantams for Hatching Eggs

Except in rare instances, where the sportsman or a member of his association is an experienced pheasant incubator man, all eggs secured should be hatched and reared under bantam hens. Much better results will be obtained through this method by the inexperienced propagator and the Commission's bulletin, "Hatching and Rearing Ringneck Pheasants," gives every step of this procedure in simple and direct language.

Artificial incubation of pheasant eggs requires entirely different methods from those used in poultry incubation, and no matter how successful a poultryman may be with hatching chickens in an incubator, he will fail with pheasant eggs unless he knows the methods. Keeping this fact in mind will save many thousands of pheasant eggs to sportsmen, and an incalculable amount of discouragement and expense.

On the other hand, when day-old pheasant chicks are received instead of hatching eggs, maximum results will be obtained by rearing them in well-controlled electric brooders. **Under no circumstances should day-old chicks be placed under hens.** This procedure is doomed to failure and thousands of birds have been lost by sportsmen in this manner. Day-old chicks should be artificially brooded and no attempt should be made to rear them in any other way.

Number of Chicks to the Brooder

Electric brooders are much to be preferred over any other kind for brooding game birds and the brooder should be placed in a house free from draughts, thoroughly disinfected and well ventilated. A house which has previously been used for poultry is **not** recommended. Baby pheasants become easy victims of poultry diseases and cannot throw them off.

In selecting the size brooder required, here is a safe rule. **The number of day-old pheasant chicks to be placed in any brooder should be one-third less than the poultry capacity of the brooder.** In other words, if the manufacturer of your brooder lists its capacity at 150 day-old **chickens**, then you may safely place no more than 100 day-old **pheasants** in that brooder. If the poultry capacity is 300, then you are equipped for 200 pheasant chicks, and so on. Strict adherence to this rule will insure better success.

Too many chicks to the brooder will induce any number of difficulties from trampling to cannibalism and feather picking. Always remember that if you are to achieve success your birds must get off to a good start.

Chicks Hardened Before Shipment

Prior to shipment from the game farms, pheasant chicks have already been dried off and hardened down from the 103 degrees at which they are hatched, to 100 degrees at which they should be placed in the brooder. Their own body heat, when they are placed in the shipping cartons in correct numbers, enables them to maintain the necessary temperature during shipment.

Unless you receive your chicks late in the day they may be fed immediately after placing under the hover. When they are received toward evening, feeding should be started early the following morning.

It is necessary to stay with your chicks when they are first placed under the hover and the little fellows should not be allowed to stray away until they are used to their artificial mother and know where to go for warmth. They must also be encouraged to eat until they "get going" and all this will require patience. You can only learn by **watching** the chicks, whether they are comfortable and contented or not.

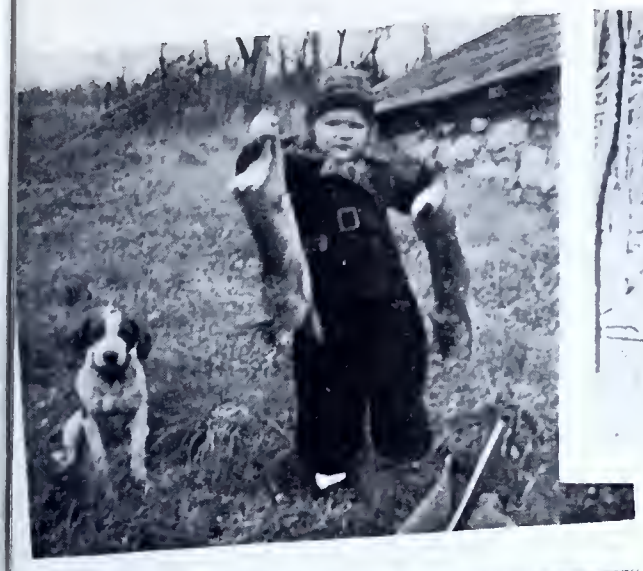
More complete details on brooding and feeding will be found in the Commission's bulletin on "Artificial Incubation and Brooding of Ringneck Pheasants."

Growing and Holding Pen

In preparing to order and receive your eggs or chicks there is more than brooding capacity to be considered. Your bantam hen or electric brooder will rear your chicks to six weeks of age, but from that time on the little fellows go "on their own" and need more room in which to exercise and grow. They will also consume a great deal more feed.

A wire-covered growing and holding pen, permitting the birds access to ground **sown in good thick clover,** should be provided. The **minimum** space available in this pen must be **at least** 25 square feet per bird. You are almost certain to experience trouble if you go below this minimum. Growing pheasants, particularly after reaching the age of six weeks, must have plenty of **room** and **good cover.** Therefore, if you are planning to raise 100 birds, your pen must contain at least 2500 square feet. For 200 birds, 5000 square feet and so on. Strict adherence to this rule will insure better success.

(Continued on page 29)

























Top Left—"Starting Them Young" Photo by Elton Kachel; Center— Wild Turkeys Feeding—Photo E. Alexander; Right—Wildcat Caught Near Ravers Gap, Bedford County—Photo by C. Perrin; Second row, Left—Members of the Coaldale Forest and Streams Association bringing in a nice 7-point buck—Photo John Fignar; Center, "The End of a Perfect Day."—Photo John Fignar; Right, John Cooper, of Grove City, winner of the Deer Hunter's Association prize in 1936; Third row, left, Feeding Station.—Photo E. Alexander; Center, Novel Signboard at Refuge Keeper's Headquarters.—Photo E. Alexander; Right, Jack Wallace, of Pardoe, Pa., winner of the Deer Hunter's Association prize 1937; Fourth row, left, Two Bear Killed By The Lincoln Falls Gun Club.—Photo by R. A. Buchard; Center, Roy McFadden, Harrisville, Pa., winner of Deer Hunter's Association prize 1935; Right, Weasel Caught in Stump Set For Owls.—Photo E. Pilling.



Montgomery County Sportsmen Stage Big Rabbit Drive

CURRENT TOPICS

TAXIDERMY EXAMINATIONS DEMONSTRATE VALUE

In order to safeguard the interests of the sportsmen and licensed taxidermists, the Pennsylvania Game Commission last summer, acting under authority of the amended Game Law, passed a resolution providing for the establishment of a system of examinations to determine the qualifications of applicants for Taxidermy Permits.

The first examination was conducted by the newly appointed Taxidermy Examining Board, composed of R. L. Fricke, Carnegie Museum; H. T. Green, Academy of Natural Sciences; and M. J. Kelly, Everhart Museum, at Harrisburg last fall, there being eleven (11) applicants participating, of which number all passed with a satisfactory rating with the exception of one. The names and addresses of the successful applicants follow:

Charles E. Conway, Mt. Wolf; Huller Isenberg, Alexandria; Earl L. Miller, Stewartstown; Robinson C. Phipps, RD 1, Collegeville; Curtis W. Rupert, Robertsdale; George J. Ruth, Greentown; Steve R. Stefanides, 96 Dennison St., Swoyerville; Fred W. Stoll, 526 Township Line Rd., Elkins Park; George H. Ward, 905 Dewey Ave., New Castle; and Maynard Yocum, RD 3, Danville.

The system of examinations also provides for testing the ability of licensed taxidermists whose workmanship or methods of doing business may be questioned. In other words, **if the Commission receives two or more legitimate complaints** concerning the quality of work done by taxidermists during the twelve months preceding May 31, 1938, such taxidermists will not be granted a renewal license until they have demonstrated their fitness in a taxidermy examination and established satisfactory qualifications to continue the practice of taxidermy for profit.

The new system makes it possible for the Game Commission to safeguard the best interests of sportsmen who desire to have valuable specimens mounted as trophies in a capable manner. The new system works no hardships on the bonafide, efficient taxidermist, but on the other hand it will eliminate those taxidermists who are not capable to do first-class work.

If any readers of the GAME NEWS know of taxidermists who are not doing satisfactory work they can render their fellow sportsmen and the Commission a real service by advising the Commission, giving specific information. Such information, in keeping with the Commission's established policy, will be treated confidential.

Studies of the breeding and other habits of muskrats in the wild and under controlled conditions will be conducted at a new fur-animal field station established by the Bureau of Biological Survey near Cambridge, Md. Despite the thousands of these fur-bearers trapped annually little is known of their breeding habits and it is hoped that the new station will develop better methods of managing the wily rat.

Scientists have proved beyond question of doubt that the scarcity of upland game birds is due to that little-understood phenomenon —the game cycle. F. C. Edminster, of Cornell University, made careful studies of two game areas in New York State during three successive years: 1935, 1936 and 1937. One area was a game refuge where no shooting was permitted; the other, a public shooting ground. In three years he found no evidence of more game on the refuge than on the shooting area. Instead, several of his counts showed a larger proportion of game on the land where shooting was permitted.

Decisions in twenty-nine additional hunting accident cases, in which persons brought death or injury to others during the hunting season, were handed down recently by New York's Conservation Commissioner, Lithgow Osborne. The decisions, made under a new section of the Conservation Law which empowers the commissioner to revoke hunting, fishing and trapping licenses for periods up to ten years, of persons accidentally shooting others, were the result of a series of statewide hearings held early in January.

The Sixteenth Annual Convention of the Izaak Walton League of America will be held at the Hotel Sherman in Chicago, April 21-23 inclusive. Representatives from all over the country are expected to attend and many interesting talks on timely conservation topics will be presented.

It is requested that reservations be made early.

THE SPORTSMAN'S DOLLAR

The October issue of the GAME NEWS contained a comprehensive statement of the Game Commission's revenue and disbursements for the year which ended May 31, 1937. Since the publication of that statement numerous requests have been received for a more simple statement which shows at a glance the part of each dollar spent for the several operating functions of the Department, rather than the detail by bureaus and divisions.

In response to such requests, and also for the information of the many new subscribers to the GAME NEWS, we publish on the back of this issue a graph showing the part of the Sportsman's Dollar spent for each of the operations, regardless of bureau or division. The functional expenditures as given include salaries, wages, and expenses of all employes engaged in that work, and all expenditures for equipment, supplies, etc., incident thereto.

Those who desire additional information, including the amount spent for each operation, and the condition of the Game Fund at the beginning and end of the fiscal year, will find same in the following tabulation:

NOTICE!

As result of a recent survey at this office we find a considerable number of persons failing to receive their copies of the GAME NEWS regularly. The greatest reason for this non-delivery is due to the fact that many of our readers change their address and fail to inform the EDITOR of the new, as well as the old address.

PLEASE INFORM THIS OFFICE IMMEDIATELY OF ANY CHANGE IN YOUR ADDRESS.

NEW BOOKS

The American Elm, Its Glorious Past, Its Present Dilemma, Its Hope for Protection.—Herein is vividly portrayed the life history of this beautiful tree in a way which cannot help but appeal to the aesthetic instincts of every nature lover. Intelligently presented and profusely illustrated. It makes a wonderful addition to anyone's library. It can be secured direct from the American Forestry Association, Washington, D. C.

Knowing Your Trees—A beautifully gotten up book containing 100 pages of interesting scripts and beautiful photographs of the full tree, its leaves, bark, flowers and fruit. The author, C. H. Collingwood, has given every nature lover a wonderful contribution to his or her library. Published by the American Forestry Association.

FINANCIAL STATEMENT

FISCAL YEAR ENDING MAY 31, 1937

Unobligated balance available June 1, 1936 ..... $ 904,136.01

RECEIPTS

Hunters' Licenses	$1,121,195.23	
Game Law Fines	59,365.20	
Special Game Permits	11,805.00	
Interest	10,477.87	
Wood Forest Products from Game Lands	752.40	
Skins Sold	4,510.90	
Unserviceable Property	982.50	
Rental	252.00	
Publications	8,680.83	
Miscellaneous	2,179.87	$1,220,201.80

EXPENDITURES*

		Part of Dollar
General Field Administration (Salaries and expenses incident to law enforcement, game feeding, game distribution, game law printing, cooperation in enforcement of fish and forest laws, and other field activities)	$ 334,434.83	24.22c
Game Purchases and Propagation (Including expenditures for game farm equipment)	245,084.93	17.75c
Game Land Purchases (Including title and survey work)	238,021.85	17.24c
Game Land Management (Salaries and expenses of refuge keepers and other employes incident to maintenance and development work on game lands and game refuges)	231,176.37	16.74c
Payment of Bounties	137,912.35	9.99c
Accounting and Budget (Including legal advertising, mailing and store room, issuance of special permits, general printing, etc.)	50,063.75	3.63c
Public Education (Including Game News, Motion pictures, exhibits, general bulletins, etc.)	42,031.90	3.04c
Training School (Including both student class and refresher courses for regular officers)	28,487.28	2.06c
Hunting Licenses and Tags	23,089.37	1.68c
General Administration (Executive office salaries and expenses of Commissioners)	18,975.02	1.37c
Feed for Wild Game	13,144.01	.95c
Bear Damage and Deer Proof Fences	10,405.55	.76c
Research and Wild Game Transfer (Including wild game propagating areas, trapping and distribution of game)	7,927.14	.57c
	$1,380,754.35	
Less Bounty advancement account refund	39,943.00—	1,340,811.35

Net amount of expenditures over receipts	$ 120,609.55—	
Amount on hand from previous budget allocations and reserved to cover commitments for land purchases and other items incurred prior to June 1, 1936	246,855.35	126,245.80
Gross balance on hand without commitments deducted		$1,030,381.81
Amount deducted and reserved to cover commitments for land purchases and other items		207,460.00
Net balance available May 31, 1937 (which includes $223,415.82 standing to credit of special fund for Refuges and Lands)		$ 822,921.81

NOTE: All expenditures of the Commission for the first five months of any budget year are paid from the net balance available at the end of the previous fiscal year, due to the fact that the income during that period is negligible.

* Charges for Insurance, employes' retirement, bond premiums, fixed charges, etc., are included in the respective functional items above.

CURRENT TOPICS

REGULATIONS

Governing Distribution of Day-old Bobwhite Quail Chicks Furnished Free of Charge by the Game Commission.

1. Day-old Bobwhite quail chicks are shipped **only** to sportsmen operating the new Sportsmen's Game Propagating Pens developed by the Game Commission.

2. Two Sportsmen's Game Propagating Pens are required for rearing 50 chicks, the minimum number of chicks that will be shipped.

3. No more than 150 chicks can be furnished to each applicant.

4. APPLICATIONS must be secured from and filed in DUPLICATE with the District Game Protector **only,** between January first and **April first of each year.**

5. REPORT FORMS are furnished with APPLICATION BLANKS to each applicant, and these forms must be **returned to the District Game Protector,** prior to April first of the following year.

6. Applicants failing to return complete REPORTS of birds raised will **not be eligible** to receive future shipments of quail chicks from the Game Commission. **There will be no exception to this rule.**

7. The Commission strongly recommends that quail raised in the Sportsmen's Pens should be held over the winter in these pens and liberated during the month of April.

8. All birds raised must be liberated in cooperation with the District Game Protector prior to May first, and he must be notified, in advance, when and where the liberation will take place. Liberations must be made on lands open to public hunting.

9. Quail chicks are shipped **charges collect** or may be called for at the State Farm.

10. Bulletins and working drawings of the new Sportsmen's Game Propagating Pens may be had upon application to the District Game Protector or to the Division of Propagation and Game Farms, Pennsylvania Game Commission, Harrisburg.

11. The Commission cannot always guarantee applicants delivery of chicks applied for, but every effort will be made to fill approved applications within the limits of the Game Farm production.

Anthony Leck, Fish Warden and John Lohman, Game Protector of Schuylkill County, recently assisted in the apprehension and arrest of a gang which had been robbing hunting cabins along Sweet Arrow Lake. The two officers patrolling this territory gave chase to a suspicious looking car, the occupants of which were released when they stated they were looking for a lost hunting dog. Neither Mr. Leck, nor Mr. Lohman had learned of the cottage robberies at that time. Later however, Protector Lohman, hearing of the robbery, recalled the actions of the men he and Mr. Leck chased and reported to the police. Presto! A gang of robbers in the bag.

While trapping ringneck pheasants and other small game recently, a student at the Game Commission Training School caught a ruffed grouse. Other birds and mammals trapped included 55 ringneck pheasants, 1235 rabbits, 115 gray squirrels, 31 red squirrels, 8 oppossums, 1 woodchuck, 2 weasels, 2 crows, 4 dogs and 3 cats.



IN MEMORIAM

One of the best known and best liked sportsmen in northeastern Pennsylvania passed on to his great reward on February 26—Professor Wilson H. Barto, familiarly known to his host of friends as "Billy" and one of the most enthusiastic organizers of sportsmen in the State. He was buried at his home in Weatherly, Pennsylvania, with military honors, at two o'clock Tuesday afternoon, March 1.

Mr. Barto was principal of the Grand street school at Hazelton at the time of his death, although he served as a teacher for the past fourteen years. He was commander of the Weatherly Post of the American Legion, a graduate of Weatherly High School, Kutztown State Teachers' College, and Muhlenberg College. For many years he served as secretary and director of publicity of the Carbon County Sportsmen's Association and was secretary of the Tri-Valley Outdoor Club of Weatherly.

ACCIDENTAL DEER KILLS

An auto driven by V. R. Gildea of Coaldale was damaged when it struck a deer on the Hazelton-Tamaqua highway north of Hometown.

A deer was killed by a train near Brandtsville. Cumberland County.

A doe jumped in front of a car and was killed on the Pine Grove Furnace road in Cumberland County.

HAIR TONIC

If science paid as much attention to human hair as to the pelage of animals, the first few rows at any musical comedy might cease to resemble a sea of billiard balls.

Science delves into the problems of keeping animal hair luxurious largely for economic reasons. The careful study of pelage helps produce bumper fur crops of great value and human hair has been practically a drug on the market since the days when the Indians were on the warpath.

An example of the careful scientific study of animal hair is found at the Storrs, Connecticut, wildlife research unit. This unit, one of nine similar research projects supported by the American Wildlife Institute, one of which is in Iowa, is located at the Connecticut State College. It is financed by the American Wildlife Institute, the U. S. Biological Survey and the college itself.

At the Storrs unit one of the major research projects is the study of problems besetting the cottontail rabbit. Pelts are studied at all seasons of the year to determine the effects of change of climate and diet on their fur.

To arrive at exact conclusions in this respect it is necessary that the area of moulting be accurately gauged. This is done in two ways. Flesh side up, the skins are laid flat under a glass ruled into centimeter squares. Where the skins show black, the fur is shedding. Where they show white, new fur is to be found. In this manner the amount of moulting on any individual pelt may be accurately measured.

The other method of measuring areas of moulting is by use of a planimeter.

Many delicate instruments are in use at Storrs for the study of the rabbit's breeding habits. Temperature is an important factor in eccology and wires are run into nests to record variations in heat while the female is feeding her young. These temperatures are taken through a clever device known as the recording potentiometer, invented by Dr. Raymond H. Wallace, plant physiologist at Storrs.

There are only eight recording potentiometers in this country. The instrument works electrically, recording with a writing arm on a drum on which there is a revolving pad of pink waxed paper. The writing arm scratches off in the wax a record much like that of a seismograph, noting changes in temperature and light rather than earthly disturbances. Temperatures in the dens rise by the effect of natural heat of the rabbit and so delicate is Dr. Wallace's invention that such changes are clearly recorded.

CURRENT TOPICS

NOTES FROM THE FIELD

Richard Huskin of Grove City reports having seen a mother bear and four cubs during the past deer season. Mother Bruin and her quartet came within forty feet of him before she was aware of his presence.

"The deer in the vicinity of Game Lands No. 34 are looking fine, and we are feeding about 500 on our strip cuttings. They stay along the cuttings, moving only from one to the other, and apparently working over them several different times. There was a nice crop of fawns, and they seem to be just as strong as the larger deer."—E. W. Turley, Refuge Keeper, Elk County.

"Deer have been coming into the fields at this dwelling. Mr. Hilborn, living in a forestry house adjoining the Refuge, has been feeding them regularly. They have been getting tame and two small bucks have taken possession of his woodshed and sleep there every night. In the morning they wait until they get a breakfast of pancakes and potato peelings, and then they leave, coming back in the afternoon and getting dinner, and thence to bed. Can be fed by hand, but not petted."—Jesse C. Newcomer, Refuge Keeper, Lycoming County.

"All available fruit trees at Refuge are being trimmed by NYA detail. This includes all wild apple trees as well as some of the old orchards within the Refuge. Game through the area is wintering well. The winter has been open from time to time and much grain was left in fields on account of wet fall."—Burt L. Oudette, Refuge Keeper, Crawford County.

"Recently while making release cuttings on Refuge 30-B I looked over a cutting we had made sometime ago and was very much surprised to find in that remote section that a number of grey rabbits had taken possession of the cuttings. I believe the best feeding station we can build at the present time in this area is to cut down a quarter of an acre of brush."—Claude B. Kelsey, Refuge Keeper, Potter County.

"With NYA assistance have pruned and released approximately 250 apple trees on Game Lands 111, the majority of which are on the Refuge. Expect to prune and release 750 of these trees before we are through."—Nicholas M. Ruha, Refuge Keeper, Somerset County.

"An auto hit a deer near Baines, on Route No. 6, killing the animal and doing about $50.00 damage to the car. Mr. J. F. McConnell, Watrous, Pa., turned to miss hitting one deer when a large 7-point buck jumped from the bank onto the front of the car."—Hugh E. Baker, Refuge Keeper, Tioga County.

"Some of the bucks are still carrying their antlers."—W. F. Mason, Refuge Keeper, Clinton County.

"The three wildcats which I trapped on Refuge No. 520 weighed 17½, 19¾, and 21 pounds respectively. Upon opening the stomachs I found nothing but deer hair and a lot of twigs about 2 inches long, which it undoubtedly ate while in the trap."

"Two days after the close of deer season the Martin Hill Refuge No. 520, looked like a hog pen—tracks everywhere, and plenty of deer beds. Two weeks later I noticed as many tracks and beds outside of the refuge as inside.

"On January 13, 1938, I saw 27 deer on Martin Hill, in and out of the refuge. By far the greatest majority were small deer, and all were fat and in excellent shape.

"The last antler rubbing I noticed, and knew was fresh, was on Sunday, November 28. The maple was about 5 feet from a fox set and was not rubbed the previous time I had checked my traps."—Albert Bachman, Refuge Keeper, Bedford County.

"I saw a large Pileated Woodpecker in Refuge No. 97D, Monroe Township, Bedford County. This is the fourth Pileated Woodpecker I have seen in the ten months that I have been in Bedford County."

"On January 29, while looking at some fox traps in Refuge 97A, I saw a large grouse strutting; tail and black neck feathers were pushed out and up. Bird was snapping its bill and walking around as if it owned the world until it saw me and then it immediately took flight."—Albert Bachman, Refuge Keeper, Bedford County.

"The following incident was related to me by Mr. R. L. Anderson, of Petersburg, Pa. Have checked following with other hunters and find story to be authentic.

Mr. Anderson, while hunting for deer on Saturday, December 4, on Warrior's Ridge, in Oneida Township, was rather surprised to hear coming towards him what he thought might be a Drum Corps out on parade. Upon waiting he learned that it was a deer drive, composed of three men with snare drums and one man with a bass drum. How they were able to get through this section with drums and still play them is quite a mystery to Mr. Anderson as it is very brushy. When in very thick scrub-oak the beating of the drums was rather ragged, but when the drivers got into more open territory they would certainly go to town. Personally I know the above area to be covered with nothing but brush, principally scrub-oak.

"On Sunday, January 23, went to turkey enclosure No. 3, located in Refuge No. 532. Put out feed for turkeys stocked there, tried to find turkeys to check them but they were not in that vicinity. While driving on tram road toward northeast corner of Refuge met turkeys coming out of refuge about 400 yards below the enclosure. Was surprised to see a large turkey tom following along with turkey tens. The gobbler would try to get them to follow him away from the road but the hens continued to follow along the road leading back to the enclosure. Of course when the turkeys passed the car the gobbler detoured around the truck but immediately came back on the road with the hens. As soon as the turkeys were around a bend in the road I turned the car around and started to follow them to see if the gobbler would go along with them to the feed. Did not see the turkeys again, but believe that the gobbler found the feeding station. The thing that interested me was the fact that the turkey tom was constantly trying to take the hens away from the road, but they continued to range along the road past the truck. This turkey was a very nice bird weighing around 18 pounds. Which will break down? Will the gobbler become tamer, or will the hens become more wary? Am inclined to believe that the latter will be true in the near future."—Ross Metz, Refuge Keeper, Huntingdon County.

Refuge Keeper McClure reported that he completed, a few days ago, a course in First Aid given by a representative of the American Red Cross. This gives him the right to teach First Aid and to issue certificates for the reason that he now has an instructor's certificate in the American Red Cross. Mr. McClure is to be commended for having had the initiative to take this course.

"Mr. D. Crane was a caller here on Sunday, January 30. He said he hunted in this section the first day of deer season in 1922. He spent the day in Adam Run and did not see one deer. His car was the only car in that section and he saw no hunters except those in his own party.

"I did not take any pictures last season but I counted 105 cars at 10:00 A.M. within three quarters of a mile of the house, and 29 nice bucks were taken out that night."—John Hopkins, Refuge Keeper, Warren County.

"A flock of about 12 cardinals have wintered along Dunbar Creek. See them every day I go to Refuge 51-A.

"While tracking grey foxes in 51-A I noticed several places where they stopped and dug for acorns. Their droppings contained parts of acorns.

"Have found numerous hickory nuts and beechnuts hid under the bark of trees while painting boundary line."—George Sprankle, Refuge Keeper, Fayette County.

"January 25 I saw 3 flocks of grouse totaling 21 in all on Game Lands No. 14.

"I noted on January 28 the deer are feeding on strip cuttings very heavily. I saw a total of 38 deer feeding in 8 cuttings."—Paul Narby, Refuge Keeper, Cameron County.

The unusually warm weather has started the gobblers gobbling around the ridges of Huntingdon County. Usually they don't start until March. Sea-Gulls are also making their appearance along Juniata River near Petersburg.

CURRENT TOPICS

SUMMARY STATEMENT OF BOUNTY ALLOWED ON NOXIOUS ANIMALS FOR THE MONTH OF JANUARY, 1938

Counties	Great-Horned Owls	Gray Foxes	Gos-hawks	Weasels	Amount
Adams	0	19	0	86	$ 119.00
Allegheny	0	9	0	52	62.00
Armstrong	1	21	0	174	173.00
Beaver	0	10	0	40	60.00
Bedford	3	46	0	120	250.00
Berks	1	18	0	262	205.00
Blair	2	24	0	125	162.50
Bradford	7	48	1	111	263.50
Bucks	0	45	0	181	270.50
Butler	7	31	0	195	235.50
Cambria	0	25	1	113	158.50
Cameron	0	26	0	1	104.50
Carbon	0	19	0	27	89.50
Centre	2	125	1	159	585.50
Chester	0	4	0	148	90.00
Clarion	3	16	0	234	187.00
Clearfield	3	53	0	168	302.00
Clinton	1	104	0	50	443.00
Columbia	0	11	0	116	102.00
Crawford	6	1	0	176	104.00
Cumberland	3	22	0	56	122.00
Dauphin	2	27	0	126	175.00
Delaware	0	0	0	2	1.00
Elk	0	20	1	80	122.00
Erie	3	3	0	130	83.00
Fayette	0	104	0	109	470.50
Forest	1	7	0	30	45.00
Franklin	0	22	0	77	126.50
Fulton	2	11	0	20	58.00
Greene	0	12	0	7	51.50
Huntingdon	1	117	1	172	558.00
Indiana	3	29	0	214	229.00
Jefferson	2	21	0	174	175.00
Juniata	0	22	0	39	107.50
Lackawanna	1	17	0	30	85.00
Lancaster	0	17	0	190	163.00
Lawrence	0	1	0	49	28.50
Lebanon	0	12	0	51	73.50
Lehigh	0	1	0	73	40.50
Luzerne	1	33	1	134	203.00
Lycoming	1	96	0	136	454.00
McKean	0	22	0	16	96.00
Mercer	4	8	0	161	120.50
Mifflin	1	36	0	71	181.50
Monroe	0	22	3	34	111.00
Montgomery	0	17	0	60	98.00
Montour	1	1	1	23	19.50
Northampton	0	8	0	61	62.50
Northumberland	0	6	0	102	75.00
Perry	1	22	1	67	125.50
Philadelphia	0	0	0	11	5.50
Pike	0	38	2	4	158.00
Potter	2	37	1	13	160.50
Schuylkill	0	50	0	195	297.50
Snyder	0	16	0	45	86.50
Somerset	0	75	0	232	416.00
Sullivan	0	10	1	31	57.50
Susquehanna	1	66	0	50	291.00
Tioga	4	40	0	12	174.00
Union	1	24	0	19	107.50
Venango	2	26	0	165	190.50
Warren	1	4	0	81	58.50
Washington	0	10	0	40	60.00
Wayne	2	44	1	29	196.50
Westmoreland	0	42	0	228	282.00
Wyoming	0	19	0	33	92.50
York	0	33	0	233	248.50
Totals	76	1925	16	6453	$11,110.50

Total number of claims—3,575

A SUMMARY OF THE GAME KILL AND HUNTING ACCIDENTS IN PENNSYLVANIA

Kind	Wt. of Ea.	Season of 1936 (Final Report) Number	Season of 1936 (Final Report) Weight	Season of 1937 (Preliminary Report*) Number	Season of 1937 (Preliminary Report*) Weight
Deer, Legal Males	115 lbs.	18,084	2,079,660 lbs.	25,009	2,876,035 lbs.
Bears	175 "	356	62,300 "	471	82,425 "
Rabbits	1¾ "	1,338,892	2,343,061 "	1,924,760	3,368,330 "
Hares (Snowshoes)	3 "	.....	.....	2,420	7,260 "
Squirrels	1 "	373,785	373,785 "	607,522	607,522 "
Raccoons	10 "	34,736	347,360 "	30,526	305,260 "
Wild Turkeys	10 "	3,208	32,080 "	4,102	41,020 "
Ruffed Grouse	1⅓ "	96,909	129,212 "	88,018	117,357 "
Ringneck Pheasants	2¾ "	267,890	736,698 "	373,121	1,026,083 "
Quail	6 oz.	42,095	15,786 "	31,696	11,886 "
Woodcock	6 "	25,455	9,546 "	30,271	11,352 "
Shorebirds	4 "	17,407	4,352 "	7,816	1,954 "
Blackbirds	2½ "	60,245	9,413 "	43,563	6,807 "
Wild Waterfowl	2½ lbs.	27,546	68,865 "	29,821	74,552 "
Total Weight			6,212,118 "		8,537,842 "
Reduced to Tons, Equals			3,106 tons		4,269 tons

***These 1937 Preliminary Estimates may change considerably when individual hunters' reports are completely tabulated.**

1937 Hunting Season Accidents (Preliminary Report)	Fatal Accidents No.	Fatal Accidents Percent	Non-Fatal Accidents No.	Non-Fatal Accidents Percent	Total No.	Total Percent
Total Accidents						
Self Inflicted	24	53%	59	18%	83	22%
Inflicted by Others	21	47%	277	82%	298	78%
Ages of Victims						
Under 21 Years of Age	22	49%	127	38%	149	39%
21 Years of Age and Over	23	51%	209	62%	232	61%
Ages of Persons Inflicting Injury						
Under 21 Years of Age	7	33%	61	22%	68	23%
21 Years of Age and Over	13	62%	207	75%	220	74%
Age Unknown	1	5%	9	3%	10	3%
Kind of Game Hunted						
Large Game	22	49%	30	9%	52	13%
Small Game	23	51%	306	91%	329	87%
Accidents Occurred Thru Use of						
Shotgun	27	60%	304	91%	331	87%
Rifle	17	38%	32	9%	49	12½%
Revolver	1	2%	....	....	1	½%
Where Accidents Occurred						
Fields	20	45%	114	35%	134	35%
Brush	9	20%	94	28%	103	27%
Open Woodland	6	13%	55	16%	61	16%
Dense Woodland	6	13%	55	16%	61	16%
Conveyance	1	2%	....	....	1	½%
Camp	....	....	4	1%	4	1%
Woods Road	2	5%	7	2%	9	2½%
Public Highway	1	2%	7	2%	8	2%
Conditions						
Standing	23	51%	226	67%	249	65%
Bending Over	10	22%	14	5%	24	7%
Walking	7	15%	88	26%	95	25%
Entering Vehicle	2	5%	3	1%	5	1%
Miscellaneous	3	7%	5	1%	8	2%
Weather Conditions						
Clear	35	77%	272	82%	307	80%
Rain	2	5%	21	7%	23	6%
Snow	1	2%	11	3%	12	3%
Fog	1	2%	6	1%	7	2%
Light	2	5%	20	6%	22	6%
Dusk	1	2%	6	1%	7	2%
Dark	3	7%	....	....	3	1%
Red Worn by Injured						
Red Cap	6	13%	78	24%	84	22%
Red Back	2	5%	25	8%	27	7%
Red Cap and Back	10	22%	62	18%	72	19%
No Red Worn	27	60%	171	50%	198	52%

SUMMARY OF ALL CLASSES OF 1937 SHOOTING INJURIES

Fatal .....45—12% Non-Fatal .....336—88% Total .....381—100%

One Fatal Accident for every 13,363 licensed hunters

One Non-Fatal Accident for every 1,790 Licensed hunters

Preliminary reports indicate 601,349 hunting licenses were issued in 1937, or about one-tenth of all hunting licenses issued in the United States.

CURRENT TOPICS

The reports of coyotes in Wyoming County are not in the least unfounded, according to J. C. Gilford, division game supervisor, who reports that plans are now under way to launch several large drives in an effort to kill them. This is not the first time coyotes have been a serious menace to the deer herd, and Pennsylvanians who have been importing them from the west for pets or goodness knows what purpose, would do far better for themselves and for the game, if they would refrain from this practice.

"While trapping on State Game Land No. 24 I saw where a mink had chased a rabbit. Following the track, I crossed the Big Coon Creek three times. Still trailing, I approached the creek a fourth time to see Bre'r Rabbit perched on a submerged log. He departed in a hurry when I entered the water. The mink ceased his rabbit chasing when he stepped in a trap I set near by!—Wm. Weikal, Muzette, Pa.

A fine of $20.00 was imposed on Roy Swope of Straban Township, on a charge of setting and serving untagged traps in violation of the game laws.

"On one of my beaver patrols I met a man that told me the following story. "During December and January I had three red foxes killed by deer stomping on them after they had been caught in traps. The ground all around the traps had been cut up by their hoofs and the hides of the foxes were ruined." The man's name is Robert A. Smith, Laanna, Pa.—Arthur Frantz, District Game Protector, Monroe County.

F. F. Shrader of Greensburg took exception to a recent note in the GAME NEWS wherein we quoted the saying that "a pair of field glasses grows horns on a doe faster than Mother Nature." Mr. Shrader says that he has been using glasses for over twenty years and has his first mistake to make in hanging up 17 bucks. He claims the glasses were responsible for enabling him to chalk up quite a few old bucks, thereby leaving the younger more virile animals for breeding purposes. No doubt he is right. After all, it depends how properly one learns to use field glasses. If some of them can't use it any better than they can a firearm, then we don't question the origin of the axiom.

Ohio has adopted the same system of identification of hunters as we in Pennsylvania pioneered so many years ago—the hunting license tag.

The new law provides that every person, while hunting or trapping on the lands of another, shall wear on the back of his outer garment, between the shoulders, a tag bearing the license number in figures easily visibl and legible and at least one inch in height. Said tag shall be furnished free of charge to every licensee on the issuance of his license, and shall be prepared and furnished annually by the division of conservation. The failure to wear the tag issued for the current year while hunting or trapping shall constitute an offense under this section provided, however, that the provisions for this license number tag shall not be effective until January 1, 1938.

Game Protector Lewis Litzinger of Indiana, assisted by local sportsmen, recently rescued a deer which had fallen into a deserted mine shaft. The animal was imprisoned for over ten days.

WHY OUR WILDLIFE IS WORTH SAVING

Radio address on the National Farm and Home Hour, Friday, September 17, over the NBC-Blue network by Carl D. Shoemaker, secretary of the General Wildlife Federation.

Friends of wildlife, wherever you may be, I greet you.

Newspapers, magazines and radio talks during the past few months have carried many stories of wildlife to many parts of our country. In record time and by unanimous votes both houses of Congress passed recently a bill, the underlying purpose of which is to bring about the rehabilitation of our game animals and birds and other species of wildlife valuable to the soil and its products. President Roosevelt promptly approved the measure and it was deemed of such importance that for the first time in conservation history the fact that a wildlife bill had been signed was broadcast throughout the nation.

Was this a sudden interest in the problems of wildlife? Or has there grown up during the past few years a realization in the hearts and minds of our people that our wildlife is worth saving? I incline to this latter viewpoint. For just as certainly as you are listening in on this program our wildlife resources everywhere have been dwindling and their populations have been decreasing at an alarming rate.

"Is our wildlife worth saving"? This is a natural and frequent inquiry, and the answer most emphatically is "Yes."

To restore and perpetuate our wildlife we must, in many sections of our country, engage in reforestation, which in turn replenishes our standing timber. A cover of trees is one of the important factors in soil conservation and the prevention of erosion; and this in turn leads to purified streams and lakes, the insurance of better water supplies for domestic consumption and a natural control for floods.

These are all human activities directed at wildlife restoration. But they are of equal or greater importance and benefit to humanity at large. Everything that we do to perpetuate fish, game, birds and other forms of wildlife plays an important part in the economic rehabilitation of our land and water for the use and benefit of our rural and urban citizenship and builds up a better and happier place for them to live.

When we reflood former marsh and watered areas which were drained in the vain hope of making more agricultural land we immediately begin to raise the water table and give nature a chance to make better conditions for the surrounding soil. Much that is done in the name of conservation of wildlife is likewise done for man himself.

One sound reason for this increased interest in wildlife restoration is that more people every year are appreciating what this restoration means to their own economic contentment and recreational happiness.

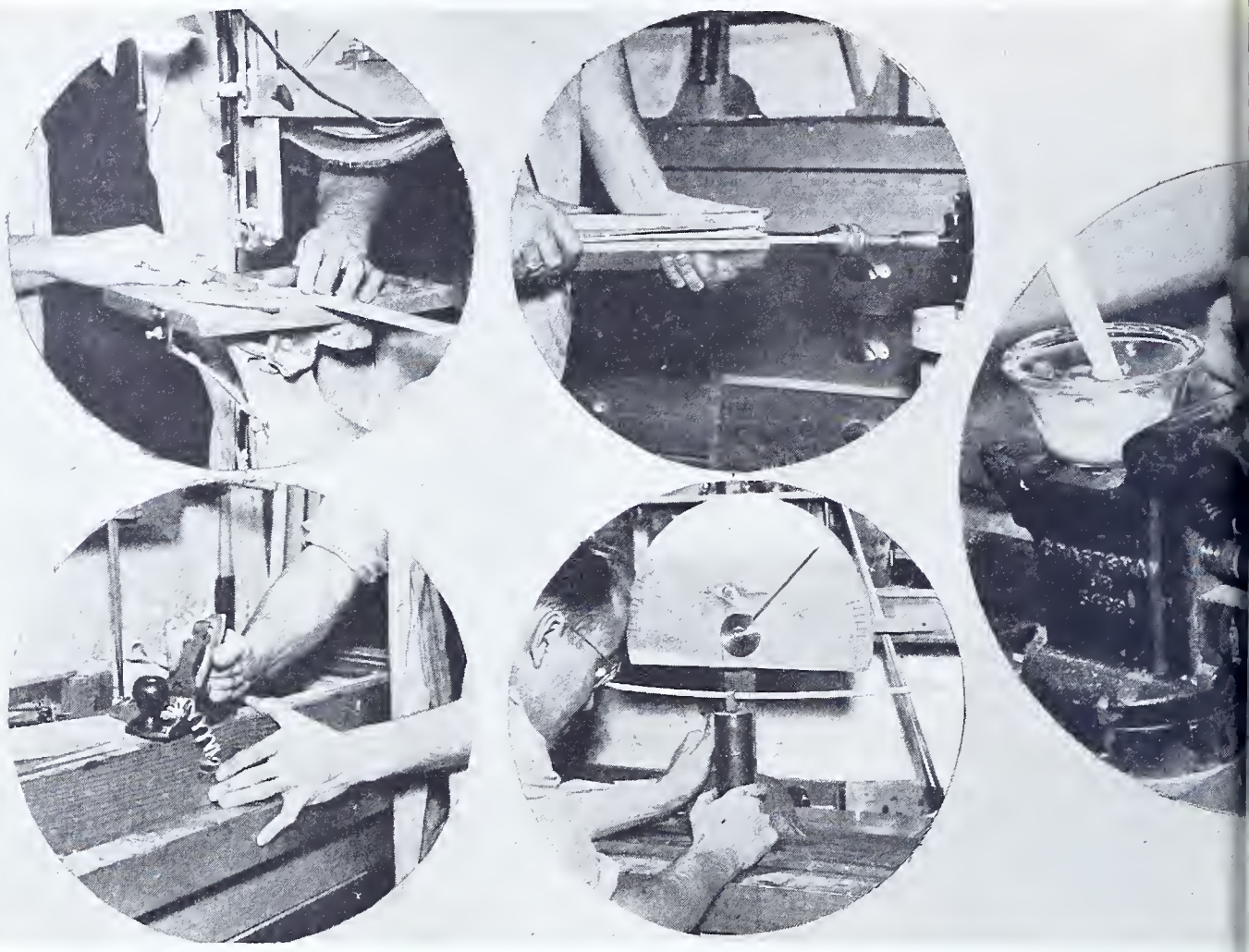
There are many problems involved in saving wildlife. Many of them are on the way to solution, many need considerable more research and still others require sympathetic understanding and consideration by the American public. How can these people be awakened—how may they be aroused from the lethargy that has surrounded their conception of wildlife—so that they will help willingly and actively in this important work that is so vital to the future of our democratic form of government?

That is the job that the General Wildlife Federation has set up as its major task. How will it be accomplished? At St. Louis last March at the second North American Wildlife Conference held under the sponsorship of the American Wildlife Institute the Federation held its second annual meeting. From every point in our great country there came men and women at their own expense to launch the movement to make Americans know more about wildlife. They decided by a spontaneous, rising cheer and vote to dedicate one week each year during which the values, the needs and the problems of wildlife would be told in every village and crossroad, in every city and town in these United States.

We know that the people will respond. We know that deep in their hearts our citizenship—men, women and youth—will rally to a cause that is as helpful to them as to the wildlife it will restore. I want to give you the name of the Director of National Wildlife Restoration Week. His name is Fred F. Jordan and his address is 400 Madison Avenue, New York City. He has been chosen by the General Wildlife Federation and its affiliated state organizations to direct the activities of this wildlife week which will begin on March 20, 1938, and continue for seven days. If you are interested in saving your forests and fields, your lakes and streams, your soil and your wildlife and are willing to cooperate with the General Wildlife Federation in bringing to our people the message of why our wildlife is worth saving, won't you please write a postcard to Mr. Jordan and tell him so? I know that you will be happier for doing it.

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THE ARROW FROM RAW LUMBER TO TH

This month we picture E. H. (Les) Braaten, President, Pittsburgh Archery Club, in the building of an expert target arrow. Before he begins, and to make reasonably sure of the results, he first determines what variables will give accurate results in the bow for which the arrow is to be built. For instance if the bow is a 28-pound pull it requires a 375 grain cedar, beef-wood footed arrow, which deflects 25/32" horizontally with a 3¼ pound weight supported at its center, the balance point 11½ inches back of the tip. Knowing these specifications, he selects the necessary materials:

Left—The cedar shafts are ripped from one piece to assure uniform resilient characteristics. To add strength and balance, beef-wood footings are put through the same action.

Large Center Circle—The beef-wood strips slotted and the cedar squares planed to a chisel point, they are assembled and glued.

Top Left—When dry the beef-wood edges are sawed flush with the shaft.

Bottom—The corners are next planed off the shaft, leaving it roughly octagon shaped.

SCATTER LOADS

Doctor Arthur W. Henn, of the Carnegie Museum, Pittsburgh, just sent me a report of the elk in Wyoming as recently furnished him by John W. Scott, Secretary and Director of the Wyoming Game and Fish Commission. Dr. Scott says there are now two Yellowstone Park elk herds, the northern which drifts into Montana during the winter months, and the southern which drifts southward into Wyoming. There is sufficient range for about 7,000 elk animals in the northern herd which until recently consisted of about 12,000 animals. During the last hunting season about 5,000 were killed in Montana.

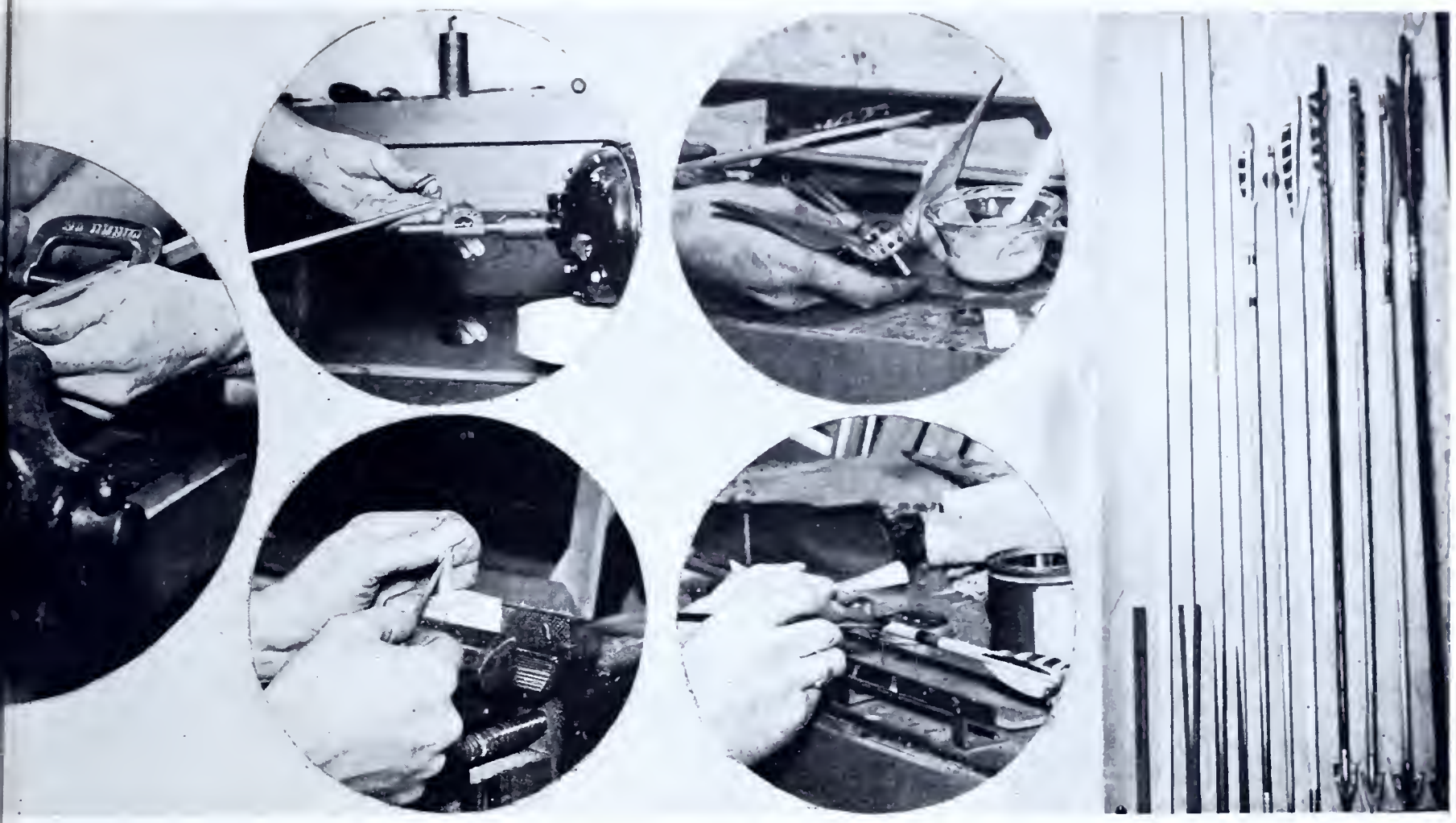
The southern or Jackson Hole herd has enough range to accommodate about 20,000 elk. The count made two years ago showed that there were more than 22,000. A recent survey lowers the estimate to between sixteen and twenty thousand. If another count this spring shows a deficiency the season will no doubt be controlled accordingly.

A well built bird house, says a Cornell scientist, is durable, rain proof, cool, and readily accessible for cleaning.

Only a comparatively few people in this world are callous to the sufferings of other people, or wild creatures. Most of them are very humanitarian in their make-up. An example of this inherent instinct recently came to life in busy downtown Philadelphia, when Mr. W. Lacey, official of the Philadelphia Rapid Transit Company, observed an English Starling hanging by its foot from a cleft in a wall.

Thinking it would escape he paid no attention to it the rest of that day. However, when he returned to his office on the morrow, the bird was still a prisoner, fluttering feebly. His call to the S.P.C.A. quickly brought a rescue crew which raised a twenty-five foot ladder from a third-story fire escape and released the injured bird while over a hundred passers-by watched from below. Unfortunately, its leg being so badly injured, the bird had to be killed.

Acquire yourself a license and gun. Go hunting as often as you can beg, borrow, or steal the time. Listen politely to all you hear about hunting—don't believe it. Study the mannerism or exaggeration of the teller for in this way you can tell better lies when you return. Expect the unexpected and unpredictable. Console yourself with the scenery. Accept what the gods see fit to let cross your path—but go hunting.



INISHED PRODUCT — By JOHN G. MOCK

Top Left Center—Next comes "booksanding" with the aid of a motor and chuck to an oversize $\frac{5}{16}$" diameter.

Bottom Left Center—The exacting process of the art follows, each shaft sanded to 310 grains, assuming that the brass point, feathers and finish, weigh a total of 65 grains and that the proper flexibility is present.

Top Right Center—Tipping the shaft: Placing on the beef-wood end a shoulder on which is seated the point.

Bottom Right Center—"Knocking" or grooving the arrow for the bow string.

Top Right—Feather gluing: Placing the feathers at vanes exactly 120 degrees.

Bottom Right—Final operation consists of cresting or placing the archer's identification on the shaft.

Right—The arrow from the raw lumber to the completed stage. The last arrow to the right is an Indian-made arrow.

SCATTER LOADS

EARLY GAME LAWS

The first system of game management was practiced by Kublai Khan in 1275 A.D.

Henry VII of England first used bounties for controlling crows.

King James I of England first established game refuges.

The first closed season on deer was declared by Massachusetts in 1718.

The first game wardens in the United States were appointed by New Hampshire and Massachusetts in 1850.

Non-game birds were first protected in New Jersey and Connecticut in 1850.

Market hunting was first tabooed in Arkansas in 1875.

Hunting licenses were first required in New York State in 1864.—Tennessee Wildlife.

The British Columbian plover spends its winter in Hawaii, after flying 3,000 miles over the Pacific.

Wild birds and animals soon learn to know their enemies as well as their friends.

Although the turkey vulture is a fearful looking bird with a wing spread of six feet, not even the youngest chickens in a barnyard show the slightest alarm when one of them alights in their midst. The turkey buzzard is said never to attack any living creature and is molested by none.

According to federal estimates, the Superior and Chippewa national forests in Minnesota have a combined deer population of 98,000. National forests in Wisconsin are estimated to contain 90,000 deer.

The speed of animals like the horse and deer is attributed by one anatomist to their rapid snap-kick stride. and most particularly to the lower bones of the leg being longer in proportion to the upper bones.

The earliest prehistoric artists drew pictures of animals mainly, and some of human beings, but rarely included plants in their art.

When hunting, I often think of a poem that an old timer told me years ago. Part of it is as follows:

"If 'twixt you and neighboring gun
Bird may fly or beast may run,
Prithee Sportsman, let it go."

There would be fewer accidents if every sportsman knew and observed these three simple lines.—Hunting & Fishing.

During a recent cruise through Northern Minnesota woods, wardens found that every wolf whose tracks they followed had eaten deer.

It is not true that careful feeding of cats at home will stop them from killing birds, say scientists. Being natural killers and unexcelled stalkers, they delight in going out on hunting trips whether they are hungry or not.

There are 19 million acres of land under cultivation by irrigation in the west.

SCATTER LOADS

BUCKY, BABY BUCK DEER, ADOPTS SANBORN COW, PET, AS MOTHER; FOLLOWS "MOTHER" TO ATLANTIC

The nursery-rhyme story of the little lamb that followed Mary everywhere she went today has been shaded by a true Clearfield County story of "Pet," a full-grown Sanborn cow, and "Bucky," a diminutive deer with spike buttons just emerging on the top of his head.

At Atlantic, near Houtzdale, the cow and deer are now "at home" for the daily dozens of visitors who go to the Mrs. Leona Finney home intrigued by the idea of the two animals which have "adopted" each other.

The story of the curious friendship, according to Mrs. Finney, is as follows:

The cow was formerly owned by Ezekial Kephart of Sanborn. One day it returned home, followed by the tiny deer. Investigation revealed that the deer's mother had died and the fawn had selected "Pet" as its mother.

The cow's maternal instincts were aroused, she virtually adopted the fawn and accepted it as a member of the barnyard family.

Several months ago, Mr. Kephart sold the cow to Mrs. Finney. When Mrs. Finney's son, Philip, went to Sanborn to get the cow, "Bucky" followed his mother by adoption and trailed the cow for the six miles between the Kephart and the Finney homes.

Since then, "Bucky," considerably less than a year old, has stayed voluntarily at the Finney barn. Sometimes he leaves the yard to run through woods about 200 yards distant. Usually he returns at night to spend the night in the stable beside the cow. Sometimes, he stays in the woods too late and the barn door is locked. The next morning the Finneys will find him waiting at the barn door for breakfast.

"Bucky" eats everything the cow eats but seems to enjoy fresh milk most. When George Finney, 15-year-old grandson of Mrs. Finney, milks the cow, "Bucky" is always on hand for a drink of milk.

Neighbors of the Finneys have come to accept the little buck in much the same manner as they would accept a friendly dog. They feed it, allow their children to feed it and in return the animal willingly consents to pose in group photographs.

The little deer is not domesticated, nor has it lost its fear of all human beings. Atlantic hunters point out that already it is beginning to show signs of its wild nature because the number and length of its trips to the nearby woods increase.

Mrs. Finney, however, has another explanation:

"It's just plain jealous," she said. "We bought two pigs a short time ago and now the deer doesn't want to stay around the barn so much."

A wild animal sanctuary, one-fourth the size of Rhode Island, is being planned by the government of Southern Rhodesia. When finished it will be the largest in the world.

A forest ranger in Oklahoma discovered five wild turkeys in the Wichita Mountains apparently in the throes of some deadly malady. Investigations disclosed they had been feeding on mash from an abandoned still.

L. C. Taylor, of Alabama, has a unique hobby. He likes long-eared dogs. What he believes to be a record is a hound with a 24½" ear spread. A pup which he thinks may soon claim the championship has increased its ear-spread from 22½" to 23½" in a week.

Pink elephants are said to be familiar phenomena to those who have drunk not wisely but too well, but pink rattlesnakes—real or fancied—are relatively unsung.

A specimen was recently discovered by CCC workers in the proposed Big Bend National Park, Texas. The reptile, measuring four feet, was killed and is displayed in a temporary museum in the Cicos Mountains as proof to the scoffers that rattlesnakes are sometimes pink.

It is estimated that insects destroy one-tenth of everything man grows.

It was back in the days when hunting bears with dogs was perfectly legitimate. A newcomer to the sport was so impressed he inquired as to where he might purchase a good bear dog for himself. A youngster overhearing the inquiry informed the sportsman that he had an excellent bear dog for sale at his home.

A bit dubious, the hunter followed the boy to his house. Going to the corner of the porch the youngster seized a rope tied there and hauled away, hand on hand. Eventually a woe bedraggled little mongrel put in a reluctant appearance from under the porch. The hunter, stifling a laugh was doing his best to be considerate of the boy's feelings.

"Did you say he was a real bear dog?" the sportsman queried.

"Yes, sir," was the assuring reply, "one of the best in the state."

"Well, I don't know much about it," the prospective buyer admitted, "but the only bear dogs I ever saw were big, hefty, long-eared dogs, much larger than that little fellow."

"Don't let his size fool you, mister," the kid replied, "there's a wrench goes with this bear hound. I just got him screwed down now for squirrel huntin'."

Barn swallows that spend their winters in Brazil fly as far north as Greenland and Alaska for the summer.

That the camera has become an important part of the average sportsman's equipment is seen in the report that an estimated number of 2,000,000 Americans are active photograph fans today. A large part of this army of picture-takers is comprised of hunters and fishermen, who regard the camera as a useful adjunct to rod and gun.

C.C.C. workers have planted a billion trees and constructed over 82,000 miles of truck trails and minor roads.

There are no less than 48 species of birds in this country that will nest in bird houses.

To prevent ivy and sumac poisoning if you are exposed, apply a neutralizing salt (ferric chloride or ferrous sulphate) preferably, or soap and water or alcohol; then wash or clean all clothes or other objects which may have come in contact with the poison.

If the poison has been contracted, bathe the skin in extremely hot water to relieve the itching. Strong solutions of baking soda, Epsom salts, photographers' hypo applied to loose bandages, or the various preventives, are also said to relieve the itching.

Zinc oxide ointment may hasten the healing after the scabs have formed, but do not use it or any other ointment or salve during the early stages, as they may only spread the poisoning.

Severe cases of the infection should be treated by a physician.

The State of Michigan figured its deer hunters spent over $2,000,000 last season. These figures were based conservatively by allowing one day on the road coming and going, three days in the woods, and an average expenditure of $5.00 on the part of the 100,000 licensed hunters who took out licenses to hunt these animals.

Sparrows are the Joneses or the Smiths of the bird world—one-seventh of the birds in North America are members of sparrow families.—Science News Letter.

Birds of Flight may reduce their relative weight literally by pumping themselves full of air. Such birds have thin-walled air-sacs between the various internal organs and even in the bones of the body into which air is drawn when the bird takes to flight.

Edward A. McIlhenny, noted biologist and naturalist of Avery Island, La., set a record last year when he banded more than 18,000 migratory birds. "The oldest return band," Mr. McIlhenny reported, "was taken from a lesser scaup banded at Avery Island, December 22, 1922, and killed during the fall of 1932, at Clearwater, Manitoba." And from Siberia we learn of an Eskimo near Indian Point, about 100 miles west of St. Lawrence Island, Alaska, who killed a pintail duck banded at Los Banos, California, a mere matter of 3000-odd miles "as the duck flies."

Coal tar is a good deer repellent, according to Rufus Boyer, Lumberman, of Shamokin. Dip some old rags in the tar, hang them on sticks about 300 feet apart, and forget about your truck patch or orchard. "The animals hate the smell and will not go near it," he says.

Left Top to Bottom—Members of the Upper Dauphin County Fox Hunter's Association. During the winter of 1937 they shot 14 foxes on Short and Mahantago Mountains. Elmer Huey and Clair Knupp, of Hillsdale, with their catch of fur for the season. Members of the Pine Field Hunting Camp with 3 nice deer hanging up. The Poor Shot Hunting Club downed this pile in three days. A Game Protector's car going through a deep snow loaded with 600 lb. of feed. A successful crow-hunt—Photo by Edward Karalus. Second Row, Top to Bottom—A fine 8-point killed by Robert Scott at Bear Lake, Warren County. A 9-point by Dean W. Scott at Bear Lake. Balls Camp at Cambridge Springs the side of which was removed by a bear looking for honey. A fine 10-point killed near the historic Mason & Dixon line, Bedford County, by Fred Q. Clapper of Ellersile, Md. Third row, Top to Bottom—A 200-lb. black bear killed by William Hahn, of Welssport, Pa.—Photo by M. D. Martz. George Kunkle of Kempton, Pa., displays a 20½ lb. wild turkey killed near Eckville. V. R. Dean, Burgess of LeRoysville, displays a 495 lb. bear killed in Wyoming County. Harold J. Stahle, Jr. examines an Archery Preserve sign in Sullivan County. Fourth row—A rare prize killed by Phillip Soller, of Shohola, Pa., Pike Co. A beautiful 12-point shot by Charles S. Bean, of New Castle, Pa. Maurice E. Sherman, Jr. with a small deer cut out of ice on Crooked Creek, Elk County.



Members of the Outdoor Club of Charleroi Junior High School. This group of juniors was organized in 1931 under the capable leadership of Mr. F. J. Lee, an instructor in the Junior High School. The club makes a study of conservation and marksmanship, and last year obtained 45 subscriptions to the GAME NEWS—also a like number to the Pennsylvania Angler. It now has a membership of 105 boys.

The entries in their recent bird-house building contest were judged by Robert D. Parlaman, Traveling Game Protector; Carl C. Stalnbrook, Washington County Game Protector; T. D. Chattaway, President, Charleroi Sportsmen's Association; D. W. Copeland, Principal, and David L. Weaver, Instructor, Charleroi Junior High School.

WITH THE CLUBS

PLANTING GAME FOOD
How You Can Help

It is unnecessary, of course, for us to point out to those interested in hunting, the necessity of an adequate supply of food and cover for wildlife. Your experiences in the fields and woods during the hunting season naturally convince you that an abundant supply of game cannot be had without these fundamentals.

The Game Commission is doing everything possible to develop an extensive program of food and cover planting. Since funds budgeted for this purpose are limited, the Commission has been confining its planting projects to the State Game Lands and Game Refuges only.

If the work is to be carried on over other areas, especially those privately owned, it will be necessary for sportsmen and others interested in wildlife to assist by making their clubs, or themselves, responsible for the improvement of a particular game area. Many organizations and individuals have been quite active in this connection in the past, and it is extremely gratifying to note the increasing interest in the improvement of wildlife habitats.

New Improved Mixture Developed—One of the best ways of improving game conditions is the planting of various kinds of grain which provide the solid foods, and additional cover, so essential to game birds during the fall and winter.

Experiments on State Game Lands during the past summer resulted in the development of a game food plot mixture for planting in small game territory. This balanced mixture contains certain plants which mature their seeds early in the fall, and others which retain the seed on the stems for a considerable time during the winter. Provision was likewise made in this mixture for stronger-stemmed plants which assist in holding up those having weaker stems.

Where Food Plot Mixture May Be Bought—Quotations were received from a number of seed houses in Pennsylvania and arrangements made to have the mixture prepared by the I. W. Scott Company, 500 Liberty Avenue, 113 Diamond Street, Pittsburgh, Pa., at a cost of six cents (.06) per pound, plus shipping charges. We sincerely hope that many individuals and organizations will try this mixture and arrange for planting one or more plots, the more the better.

Seeds should be ordered direct from the above seed house, and payment accompany the order.

The mixture should be planted at the rate of 15 to 20 pounds per acre, at approximately the same time as corn, i.e., between May 1st and 31st. It may be broadcast and harrowed or raked into the ground.

Naturally any plots planted should be near good natural game cover. It is also preferable to plant long narrow strips where this is feasible. **Many small plots of 1/8 to 1/4 acre each are far better than a few large plots.**

The Game Commission authorized us to contract for two tons of the mixture from which sportsmen may order what they want for planting. Any excess will then be purchased by the Commission for planting on State Game Lands and Game Refuges.

Planting Shrubs and Vines—Many organizations may likewise wish to undertake the planting of trees, shrubs and vines to improve game food and cover conditions in their favorite hunting territory. Many helpful suggestions in this connection are contained in the first part of Bulletin No. 11 of the Game Commission, a copy of which can be secured from the Harrisburg office free of charge. Incidentally, the Bulletin likewise gives recommendations concerning the planting of grains and methods of winter feeding of wildlife, along with diagrams of different types of shelters.

Special Committee Desirable—Organizations throughout the State have found it very advantageous to appoint committees to handle matters dealing with the planting of game foods and cover. Quite often the president of an organization appoints the chairman of the committee, and he in turn selects from the membership any number of sportsmen who may be needed to serve as members. Of course it is advisable to have the membership in the committee distributed in order to cover just as much territory as possible.

Order Early and Keep Us Informed—It will be of considerable assistance if each person, who contemplates ordering any of the material, makes the necessary arrangements **as early as possible, but in no case should it be later than April 15th.** For the purpose of keeping us informed as to the amount of the seed mixture which is being ordered, it is essential for each person placing an order to furnish us with a copy of your letter to the seed house, marked for the attention of J. N. Morton.

Naturally we will be interested to know the results obtained with each planting, and to that end it will be appreciated if a report is sent in later giving complete information on each one.

If there is any additional information or assistance which is needed please let us know. Any help possible will be given.

WITH THE CLUBS

ACHIEVEMENTS OF RAYS COVE SPORTSMEN

EDITOR'S NOTE: The following testimonial is a striking example of the regard one community holds for its sportsmen's association. Hundreds of such tributes are manifested in some way or another every year, undeniable proof of the splendid service such clubs are rendering the citizens of Pennsylvania.

The success of an organization is measured not by the number of members it has managed to enroll, not by the wealth it has accumulated, and not by elaborate promises and great plans it has made. The true success of any organization is determined only by the improvements and the progress it has actually made.

The attainments of this club have been evaluated on that basis. Its accomplishments have not been judged by its one hundred and fifty (150) members, or its bank balance of $17.50, but by the work it has really done.

Since this club is primarily concerned with the sport of hunting, its work in that field was the first to be investigated. Through the influence of the sportsmen there has been released in Ray's Cove, in the last year 72 quail, 60 rabbits, and 14 turkeys. By putting out feed in severe weather and by the farmers allowing some grain to stand in fields, many game animals have been saved from starvation. Because of the sportsmanship promoted by the club much game has been protected from illegal shooting.

The association has served continually as a source of instruction concerning wildlife. From the speakers who have appeared on our programs, members and friends of the club have learned new facts about the relative harmfulness and harmlessness of predatory animals. New ideas of how to eliminate vermin have been presented. Contests for their destruction have been sponsored by the club. These speakers have also given useful and accurate information about the feeding, homes and breeding of game animals.

The club has been instrumental in distributing and arousing interest in sports magazines. New legislation has been explained at its meetings.

By establishing a range for rifle shooting an opportunity for practice has been given to sportsmen. The competition at these contests has induced them to improve their skill.

The children of the community have received new information about wildlife. They have been given new ideals of real sportsmanship; and have become interested in helping to preserve and increase wild animals.

The regular meetings of the club have provided recreation for the entire neighborhood. Variety of entertainment and activities have been presented in the past two years.

Through the efforts of this club, the citizens of Ray's Cove have been brought together and united, in a thorough drive for better sportsmanship, which is, after all, simply good citizenship.

A LETTER FROM A READER:

Gentlemen:

The communication from A. B. Champlain, Advanced Entomologist, Pa. Department of Agriculture, relating to the promiscuous scattering of litter in the forests, published in the last issue, is susceptible to the interpretation that those responsible are "insects," and as such are a menace to the health of human beings as well as all other living creatures inhabiting the forests.

I offer no alibi for those responsible for throwing wrappers and empty food containers throughout the wooded areas, hence I have no compunctions against including them in the category of "insects." But, if Mr. Champlain had in mind the fire problem as well as the health problem, I think he omitted a greater hazard by not mentioning the heaps of straw, papers and kitchen refuse left behind by the tent and trailer campers who occupy the forests temporarily.

The holders of leases for permanent camps in State Forests are bound not only to clear the premises of all combustible materials, but to keep them free from tin cans, paper, kitchen refuse and all else that might menace the purity of the streams (which means a menace to health) under penalty of forfeiture. Notwithstanding they pay rent for the ground up to $20.00 a quarter of an acre per year and build a camp according to specifications approved by the Department of Forests and Waters.

The temporary camper, such as the tent and trailerite obtain a permit free of charge, and are assigned, if not shown, a location by an authorized representative of the Department of Forests and Waters. In violation of the terms of the permit, they move out and leave behind them piles of straw, papers, kitchen refuse, etc., and nothing seems to be done about it although they come back the next year and repeat it.

I have seen as many as six such places within two miles travel. It seems this is a practice which could be broken up very quickly if it were given attention by those whose duty it is to enforce the rules and regulations governing the use of Pennsylvania's Forests.—G. M. McDonald, Reynoldsville, Pa.

EDITOR'S NOTE: I am sure that if such cases are brought to the attention of the proper authorities in the Department of Forests and Waters prompt action will be taken to prevent their recurrence. That department has always cooperated most fully in promoting the best interests of all the sportsmen.

What could a porcupine do to a petrified tree, one wonders. Several of these animals recently have appeared in Petrified Forest National Monument, Arizona. After stopping for a short time they moved on. Perhaps the petrified wood was too hard on their incisors.

The Tarentum Sportsmen's Club, Inc. owns and maintains a farm of 105 acres along Star Route 28 between Tarentum and Freeport. The association is planning picnic grounds and groves to be used for recreation purposes.

Some of the members wives along with their friends are organizing a Small Bore Team; they will be ready to take on all comers before the summer is over.

The club plans to enter the Allegheny Mountain Skeet League and will hold an Annual Rifle Shoot for small bore rifle shooters in June.

A 500 card party with 35c admission is held each Thursday night in the club rooms.

TRAP NOTES

The old West Chester Gun Club has reorganized, leased a tract of land near Grove, twenty-five miles out of Philadelphia, and will have two traps for clay target shooting installed; also skeet. Recently Harry F. Eachus, the secretary for many years, died.

The Montoco Gun Club, on the Bethlehem Pike, with Alex Schwarz, well known wing shot as the manager, has taken on considerable renewed interest. The "flyer" shoot held there February, four days, was a big success. Shoots are held there every Sunday.

The South End Gun Club, Reading, possibly holds the record for a single days entry. On Washington's birthday they had 226 entries at the 51st annual open shoot for the Historic Pennsylvania trophy. It was necessary to carry the shoot over until the following day.

The Northend Rod & Gun Club, Fullerton, a short distance out of Allentown, is taking on renewed interest. W. H. Pearson, Bethlehem, Pa., is managing the affairs of the club, and recently a very successful "flyer" shoot was held there. "Butch," as he is familiarly known, is very popular with the marksmen.

The newly organized Sportsmen's Association, Parkesburg, is looking around for a field to install traps.

The new West Chester Gun Club hopes to have the 1938 Pennsylvania State Skeet Shoot at its grounds near Grove.

The Chester County Rod & Gun Club, Inc., Thorndale, has sold a strip of land off the front for $3,000. The funds will be used to liquidate its mortgage and to make improvements to the Lodge, a building 70x40. Additional traps will be installed. The officers are talking about some "flyer" shoots this year.

Steve Crothers continues to hold up his prowess with a shot gun. Washington's Birthday, over the Roxboro traps, he went the century mark without a miss. J. M. Fredd and J. M. Mitchell, were runner ups with 92x100, respectively.

A league of women shooters from the Philadelphia district and the State of Delaware has been attracting much attention. The clay target matches have been taking place at Merion, Philadelphia and on the Du Pont grounds, Wil., Del.

WITH THE CLUBS

The Capitol City Field Trial Association will hold its Spring trials at its home ground on the Indiantown Gap Military Reservation, April 9, 10, and 11.

Gaining in popularity from year to year, this association anticipates a large turn out. Stakes will include Puppy, All-Age, and Shooting Dog. Ray S. Johnston of Buffalo, New York, and Thomas Hunt of Baltimore, Maryland, have been selected to judge the trials.

If everything works out satisfactorily there will be an added stake—A Professional All-Age—for the first day. It so happens that a group of professional handlers are running at Delaware and New Jersey just previous to the Capitol City Trials with a hold-over of a few days prior to competing in New York. It is hoped, therefore, to get the professional men to run over to Indiantown Gap and put on the added attraction. It will be a gala event for Pennsylvania if it can be arranged.

One of the largest, if not the largest, sportsmen's banquet in Pennsylvania, was held in Philadelphia recently, when the Pennsylvania State Fish and Game Protective Association, the oldest organization in Pennsylvania and second oldest in the United States, celebrated its 56th anniversary. Exactly 825 members present, several of whom were charter members.

The program was one of the finest ever planned by the association. The banquet hall of the Penn Athletic Club, where the meeting was held, was most gorgeously decorated with painted backgrounds, evergreens, mounted specimens, etc. The stage setting consisted of a deer camp, cabin and all, with a deer hanging up in front. The "camp members" were professional musicians, songsters, etc., all dressed as hunters. They entertained the guests during the entire banquet.

R. E. Bishop, originator of the second duck stamp, was one of the honored guests, and a large reproduction of his famous etching was presented to everyone. There were a great many other notable guests present, including the former Governor Pinchot.

NEW CLUBS

Bucks-Montgomery Coon Hunter's Club, Secretary, Russell Kober, Chalfont, Pa.

The Tri-Boro Rod and Gun Club of Rankin, Allegheny County, recently organized with J. V. Profeta, as Secretary.

The Harrisburg Hunters' & Anglers' Association, Inc., had a bumper year during 1937.

Over 10,000 large mouth and small mouth bass, trout, Susquehanna salmon, sunfish, catfish, perch and more than 1000 rabbits and 200 ringneck pheasants were stocked by members of the association in Dauphin County.

The club also raised and stocked 59 ringneck pheasants out of 75. The brooder house, pens, feeds, etc., were paid for and constructed from voluntary funds and labor by the members.

A successful bait and fly casting tournament and a trap shoot was held. Thirty winter feeders were established.

The active membership increased from about 200 to 476, and a goal of 1000 paid up memberships has been set for 1938. The membership fee of $1.00 includes a subscription to either the Pennsylvania Game News or the Pennsylvania Angler. The association also joined the Pennsylvania Federation of Sportsmen's Clubs.

At a meeting of the Pennsylvania Rifle and Pistol Association, held in Harrisburg recently, many important details in connection with its activities were discussed. Plans to incorporate are about completed. A committee was appointed to meet with the Pennsylvania Department of Military Affairs to discuss an Indoor State Championship Shoot.

Consideration was also given to the possibility of holding an indoor rifle match in the Farm Show Building. To insure the success of this plan it was deemed necessary to increase the club membership to at least 100 clubs, each to send one or more teams to the match. In reality the affair will be an indoor Camp Perry.

If the plan materializes, sleeping quarters and mess facilities will also be provided in the Farm Show Building. The possibility of commercial firms exhibiting at the same time was also considered. The association wants more ideas on the subject.

June 18, and 19 were the dates set for the Indiantown Gap rifle matches this year. Small-bore matches will be held at the same time. The National Guard teams and Civilian teams will be selected at this match for Camp Perry.—For further details write George A. Hoffman, Secretary, Penbrook, Pa.

The East Branch Snyder County Sportsmen's Association is planning to purchase and lease a large strip of land as a shooting range.

A large buck deer jumped through a jewelry store window recently in Stroudsburg. It wrecked the interior, then escaped.

The Beaver Falls Beaver Club recently established a thousand-acre game refuge.

The boys of the Charleston Township School District, Wellsboro, supervised by L. J. Hayden, are conducting a very comprehensive game restoration program in that community. There is a class of forestry engaged in a five acre improvement cutting. Each boy is assigned to a squad and each squad has a particular strip of woodland to thin out. The squads also construct feeding shelters and build squirrel houses on each strip. Two thousand are being planted at the edges of the woodlot this spring by boys studying vocational agriculture.

Affiliated organizations of the Southeastern Federation of Sportsmen's Clubs raised and liberated 427 pheasants last year. They also planted 3600 square feet of bed space to forest tree seedlings.

Groups of from 200 to 300 hunters from Northampton and Monroe Counties are combing sections of Wind Gap, Portland, Pen Argyl, and Fox Gap, in an effort to wipe out the large packs of wild dogs which have been killing game and damaging property along the Blue Mountains during the past several months.

Official word has come from National Skeet Shooting Association headquarters that the site for the 1938 National Championships will be Tulsa, Oklahoma; the dates, August 30 to September 3.

The Willow Rod and Gun Club of Scranton held a big banquet recently to celebrate the burning of the mortgage on its club house.

The up-and-coming Palmyra Sportsmen's Association erected 40 feeding stations, bought and reared some small game, reduced the crow population, and started a Farm-Game Refuge program in their community last year.



Four nice bucks killed the first day last season. Members of the party were Howard O'Neill, Lewis and Francis Stabb and Howard Hathaway, of Lucinda, Pa.

FEDERATION UNDERTAKES LARGE PROGRAM

The Seventh Annual Conference of the Pennsylvania Federation of Sportsmen's Clubs held in Harrisburg on February 12 was generally conceded to be the best in the history of this group. It was extremely well attended, and the various committees accomplished a great deal.

One of the outstanding contributions in the editor's opinion was the appointment of an Educational Committee to work in conjunction with the Department of Public Instruction in an effort to preach the story of conservation in the public schools.

Officers elected included: Honorable Grover C. Ladner, Judge of Orphans' Court, President, Philadelphia, Pa.; Mr. John C. Youngman, Vice-President, Williamsport, Pa.; and Dr. C. A. Mortimer, Secretary-Treasurer, Wilkes-Barre, Pa.

At the request of the editor, Dr. C. A. Mortimer, the Secretary, kindly condescended to furnish a preliminary issue of the proceedings in order that we could include in this issue all of the resolutions passed. (The editor has taken the liberty to brief them as follows:)

1. A resolution paying tribute to Mr. C. R. Hobson, retiring Vice-President of the Federation, for his years of loyal and unselfish service in its behalf.

2. A resolution reaffirming the Federation's adherence to the principles of the Lonergan Pollution Bill now pending in Congress, and opposing of the Vinson Bill No. 2711 as a waste of public funds unless the enforcement provisions of the Lonergan Bill are incorporated therein, and the Federal agency designated to enforce the act be the War Department instead of the Public Health Service.

3. Resolution that the Federation request the Sanitary Water Board to vigorously enforce the provisions of the Pennsylvania Pure Stream Bill No. 394, and if necessary to add to, dismiss, or reorganize the administrative staff of the Department of Health.

4. The Federation approved the preparation and distribution by the Game Commission of a practical handbook of Game Management for the use of farmers.

5. A resolution asking the Governor to reappoint Edgar W. Nicholson as a member of the Fish Commission.

6. Asking the Game Commission to instruct its field officers to enforce the spirit rather than the letter of the law. (Editor's Note: This has always been the Commission's definite policy.)

7. The Federation went on record as opposing any move which would bring about further limitations of the use of firearms.

8. That the use of a motor driven boat or watercraft be prohibited in setting or attending traps.

9. Prohibiting the use of a net larger than those prescribed by law for inland water fishing, unless a permit shall have first been issued by the Fish Commission, stating when and where such net shall be used. Possession of illegal nets subject to $100.00 fine and 30 days in jail.

10. Recommended that the issuance of hunters licenses be handled in the same manner as the auto drivers' licenses.

11. Recommending the repeal of the present law permitting fishing for pickerel through the ice.

12. A resolution petitioning the Game Commission to continue its Game Farms and to operate them to full capacity.

13. The Federation went on record commending the Fish Commission for the splendid work done at its hatcheries and its restocking program.

14. The Federation favored an amendment to the present Sunday fishing law which would permit the taking of bait-fish on Sunday in the same manner as on week-days.

15. The Game Commission was requested to recognize petitions from various localities with regard to removing protection from the Skunk.

16. The Federation reaffirmed a previous resolution favoring an act which would segregate the Fish and Game Funds by Constitutional Amendment.

17. That the Fish Commission endeavor to have the Water Companies of the state open their impounded waters to fishing under mutual restrictions.

18. That the Highway Department be asked to cooperate with the Fish Commission in the construction of dams through the use of highway fills for the purpose of increasing fishable waters.

19. That the Legislature prohibit the sale of Chubs, Fall Fish, Suckers, Catfish, Sunfish, Yellow Perch, Carp (not including bait-fish), taken from the inland waters of Pennsylvania.

20. The Federation went on record as unanimously opposed to any merger of the Fish, Game or Forestry Departments.

21. It recommended that the law pertaining to hunting license revocations, in the case of hunting accidents, be printed on the hunting license if practical.

22. The Fish Commission was requested to study the problem of sucker fishing in streams classified as either trout or bass streams before the season for those fish is open.

23. Approved a daily bag limit of three for groundhogs.

24. Suggested that the groundhog season be extended to one-half hour after sundown.

25. That the groundhog season be open from July 1 to September 15.

26. The Federation recommended that the Game Commission negotiate with the United States Department of Agriculture with reference to spraying timberlands with chemicals different from those used in controlling the Gypsy Moth, in order to save game from poisoning.

27. Recommended that the money received from the sale of dog licenses on Pointers, Setters, Hounds, Spaniels and other hunting dogs be credited to the Game Fund. Tabled.

28. Resolved, that the Fish Commission endeavor to execute an agreement with the several water companies whereby the excess fish in their water-sheds can be netted and placed in public waters by representatives of the Fish Commission.

29. The Federation reaffirmed its position in favor of the Pollution Bills before State and Federal lawmaking bodies.

30. Recommended a change in the Federal Migratory Waterfowl ruling. (a) To permit shooting from daybreak to dark.

(b) To legalize the shooting of all ducks except wood-ducks.

(c) To change the season to comply with Federal regulations now in force in New York State.

(d) That this include the northern part of Pennsylvania and the adjacent inland lakes.

(e) That the Game Commission cooperate in the matter.

(f) That the Federation present this resolution for action at the General Wildlife Conference in Baltimore.

31. The Federation was in favor of placing traps in holes under water.

32. A vote of thanks was extended to the Clerk of the House of Representatives for the use of the Caucus Room.

33. The Federation went on record as recommending a reduction in the cost of the operation of the Game Commission's Training School.

34. It also favored the establishment of a Bureau of Wildlife Management in the Department of Forests and Waters, to cooperate with the Game and Fish Commissions in administrating Forest Lands and Waters to provide proper food and cover for game and fish.

35. A resolution was tabled suggesting that the Game and Fish Commissions pay for the maintenance of prisoners committed to county jails for violation of the Game and Fish Laws.

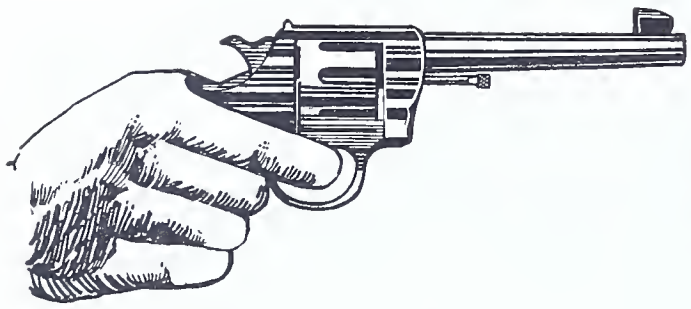
36. A resolution to permit the use of dogs, or the digging out of groundhogs in woodlands and mountainous regions, was tabled.

37. A resolution to increase the hunting license fee to $2.50, such increase to be used for improving food and cover, was rejected by a vote of delegates 30 to 9.

38. The Federation also tabled a resolution favoring the Game Commission's experimenting with the controlled use of fire to improve food and cover conditions.

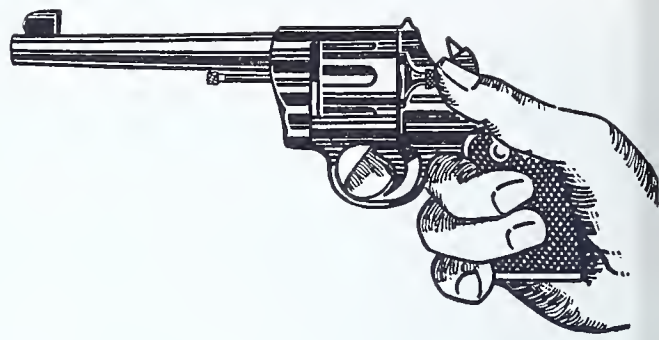
39. A resolution introduced by Dr. S. P. Boyer to limit wild turkey hunting to bearded gobblers only was rejected by a vote of delegates 16 to 12.

A great many resolutions suggesting ways and means of controlling the deer herd were presented, but all of them were tabled with the understanding that the Directors of the Federation would be called into conference with the Pennsylvania Game Commission to try to work out a solution which will be acceptable to the majority of the sportsmen.



The SPORTSMAN and the REVOLVER

by A.S. Huntington



EVERY sportsman, whether he has been fortunate enough to have enjoyed the accomplishments of revolver shooting in his back yard, or in the darkest jungles, finds a restful consolation in being proficient enough to strike a certain mark, at a given distance.

The brief story you are about to read, has to do with revolver shooting for the average sportsman who has always wondered and never attempted to learn his ability in this art. Invariably the beginner will look upon the .22 calibre arms or revolver as the most effective weapon for bettering his proficiency with this type of arm, whether an inexpensive arm, or one which might be most effectively used at a Camp Perry match.

Many revolver shooters have been thoroughly convinced that they will never make a good revolver shot, due to the fact that they have used another man's gun, and have possibly fired only twenty or thirty shots from this revolver or pistol. During this short practice period they have more than likely used improper methods even though they had the use of a fine arm. Many sportsmen define the revolver and the pistol as being arms of two distinctly different types. Frankly speaking this is a fact, due to the very different means of mechanical operation of the arm.

The word pistol is generally confined to the automatic pistol, an arm which is not a double action gun. However it discharges in rapid succession, after the hammer has been set for the first shot, a series of fast shots, the feeding of the fresh cartridges into the firing chamber being an automatic movement, given energy by the recoil power or shock of the previous cartridge fired.

With further reference to the revolver, known as an arm which has upon its working parts a cylinder which contains the cartridges, this type of arm is generally termed a revolver. Most revolvers regardless of cost, are of the double action type. However we must not overlook the fact that very expensive single shot pistols are also widely used. These are termed pistols due to the fact that they do not incorporate a revolving cylinder.

The average revolver or pistol enthusiast generally enters into the field with a hasty desire to become proficient overnight. He can't do it. Like casting a dry fly, the art of revolver shooting requires much practice, calmness of nerve. Most important of all, the beginner must sort of feel his way along with his gun, and correct to the best of his ability faults which are causing stray shots.

The wise sportsman will not go into the field without some preparation. He has probably purchased an endorsed manual on revolver shooting, and builds his ability around this valuable book of instruction. It has been a known fact in many instances that a sportsman will decide overnight to make the purchase of a side arm. Some prefer the automatic, due to its rapid firing qualities; others who have read various stories on revolver and pistol shooting, know that the revolver is the most practical arm due to its ease of trigger pull, balance, and construction.

This is not a direct slur to those sportsmen who own an automatic. However, they themselves have grown to know this arm, and only after careful practice, and possibly having the trigger properly adjusted, were they able to compete with experienced marksmen. In describing this fact, I do not criticize the arm of any manufacturer, but the experienced shooter will appreciate what I am attempting to convey.

During a practice period, which might extend over a period of possibly three or four months, the marksman will begin to feel himself as part of his arm. It is at this time that the shooter will realize how ridiculous, as well as impossible, his progress might have been had he followed his own conceptions of attaining proficiency with a side arm.

Every sportsman who enters the field with the thought in view that he is going to make an expert shot, can do just this thing, if he started out on the right foot. However, many fine revolver shots have developed a style of their own. This in many cases has also spoiled a man who might have made a wonderful shot. Had he followed the simple rules with reference to hold, squeeze, etc., he would have had less to overcome. So many things confront the man who expects to attain proficiency in this art; so many things can be overlooked. You may possibly be holding your gun with the best form, still you may be standing incorrectly. All the little pointers which mean so much are defined mechanically when the hammer of your gun falls.

It is possible that only those interested in revolver and pistol shooting will glance beyond the title of this helpful composition. However, for those who read until this paragraph we will describe some of the various types of .22 calibre cartridges, as well as various other cartridges, possibly one of which you yourself use, and none of which have the exact characteristics.

Due to the fact that all .22 calibre cartridges rated in their own class have somewhat the same ballistics, I will quote on .22 calibre Western Cartridges, assuming that the given figures are actual tests made with an arm having a barrel length of six inches.

Name of Cartridge used	Weight of bullet in grains	bbl. length 6 inches	Instrumental Vel. at 25′ from muzzle	Energy at 25′ from Muzzle
Super X .22 short.....	29	6″	1035 F.S.	69 Ft. Lbs.
22 Short	29	6″	925 F.S.	55 " "
Super X .22 long.....	29	6″	1125 F.S.	81 " "
.22 long	29	6″	930 F.S.	56 " "
Super X .22 L. rifle..	40	6″	1135 F.S.	114 " "
.22 long rifle	40	6″	995 F.S.	88 " "
Spurp Match .22 L.R.	40	6″	995 F.S.	88 " "
Marksman .22 L.R.....	40	6″	975 F.S.	85 " "
.22 long rifle	40	6″	975 F.S.	88 " "

Look over the ballistics of the above mentioned cartridges, and see whether or not, when you go out to shoot again, that your sights are properly set for the particular cartridge you may be using. Let some experienced friend of yours adjust your sight for the distance you intend to practice mark. You will find a vast difference by taking this little tip.

For those of you who are fond of shooting with a heavier arm, I wlll give a few of the ballistic characteristics covering briefly the .38 calibre arm.

Name of Cartridge	Type of Bullet	Bullet Grains	Muzzle Velocity	Muzzle Energy	Barrel length in test
.38 S&W	lead	146	750	183	4 inches
.38 S&W	Met. Pt.	143	750	179	4 inches
.38 Official Police	lead	200	600	160	4 inches
.38 S&W Special	lead	158	860	260	6 inches
.38 S&W Sp.Off. Police	lead	200	735	240	6 inches
.38 S&W Special	Met. Pt.	158	860	260	6 inches
.38 S&W Spec. Wad cutter	lead Serv.	158	860	260	6 inches
.38 S&W Spec. Wad cutter	lead Target	147	760	185	6 inches
.38 S&W Spec. High V.	lead	158	1125	445	6 inches
.38 S&W Spec. High V.	Met. Pt.	158	1125	445	6 inches
.38 Colt Police Pos.	lead	150	685	157	4 inches
.357 Magnum same diam.	lead (Sq.)	158	1510	800	8¾ inches

The average revolver crank has a treat coming in the calibre .357 Magnum cartridge. Before closing I would like to have my say about this remarkable cartridge, the ballistics of which are shown above.

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SKUNK CALLED TRUE GENTLEMEN

But "Handle With Care"

by Mark Sullivan



HERE on the farm we have a small problem about which someone may be able to give a suggestion. The old farmhouse which I occupy when I am here is vacant for several days each week, frequently for longer periods.

Taking advantage of the quiet, a skunk has for several months made his home beneath the front steps. He would not dare to be so free with the newer house across the lane which has a farmhouse's usual complement of boys and teems with busy life.

Our guest is not offensive. The skunk's ordinary smell, when not engaged in controversy, is not disagreeable.

Likes the Scent

I rather like the faintly ammoniac scent as it comes through the open window on frosty nights; and when the moon is clear I like to look out and see him ambling about the lawn, stopping here and there to dig for a mole or a grub, or to dislodge a beetle from under the bark of the tree trunks.

During the fall he did a useful service, for most of his prey was the grubs of Japanese beetles that had gone into the ground after stripping the leaves of our apple trees.

None of us on the farm is likely to suffer from the skunk, for we know his armory and will not irritate him. But sometimes we have visitors, and some of them are city-bred.

Attempts to be Friendly

I fear what may happen, either from lack of appreciation of the skunk's equipment for self-defense against annoyance, or from misunderstood attempts to be friendly with him.

Some of our visitors are young women from the city who think everything on a farm likes to have its head scratched.

I, as a boy, had my own experience with the skunk's ammunition, with no greater harm than several days absence from school and a suit of clothes buried in the orchard. But I am not sure my city-bred friends could endure the baptism with as much complacency.

About the strongest scent our guests from the city ordinarily know is the strange perfumes they bring in their hand-bags. We noticed, after one of them left the other day, an empty vial marked "quelques fleurs."

Skunk is Problem

That scent must have surprised these old walls, which when I was a boy here, knew no aroma more exotic than the St. John's wort and pennyroyal, which my mother used to dry in the fall and preserve in wisps hung from the kitchen ceiling against the time of winter colds and other small ailments.

Our problem is how to make our skunk aware that he is not welcome yet to avoid hurting his feelings to a degree that might provoke reprisal.

We could trap him, of course. The boys on the farm understand that art. They trap many in the woods each winter and sell the fur. But to catch a skunk in a trap under the front steps might result in such a drenching of the front door as would make it seem inhospitable for many weeks.

Matter of Tact

It's all a matter of tact, of getting the skunk to appreciate that, for reasons involving no reflection on him, we would prefer his absence—not on our own account, but because of guests having less understanding.

The skunk is, in a fine sense, the most gentlemanly of animals. It is not that he ever practices the conscious ingratiation that dogs often exercise. The skunk's gentlemanliness is that of the best kind of aristocrat. He interferes with no one and only demands that no one interfere with him.

The motto on his crest is "noli me tangere"—"don't touch me"—and he concedes the same motto to everyone else.

Since he is superbly equipped for self-defense he takes it, for granted that no one will insult him. Of all the wildlife he is most free from any inferiority complex. He fears no one and therefore fawns on no one.

Whoever, in the beginning, gave the skunk a bad name, whoever changed the dignified Latin "Mephitis" to an Anglo-Saxon synonym for something odious, did an injustice to the animal and a disservice to the world.

I can imagine how it came about, and the kind of person who did it.

He trespassed upon the little fellow's independence—and promptly the little fellow let him have it. Thereafter that busybody showed he was not only nosy and interfering but unfair, a poor sport. Instead of admitting it was his own fault he gave the sturdy little individualist a bad name, which has endured to this day.

He's A Gentleman

If there were not so many other matters demanding attention. I should like to dedicate myself to rehabilitating this handsome little animal's reputation.

The skunk is not only a gentleman in his personal relations but also in his civic attitude, an exemplary citizen. A nation made up of skunks would be an ideal society.

Every individual would have absolute self-respect. Because each would be able to enforce respect for himself, each would extend complete respect to others. No one would claim to be underprivileged and woe to everyone who would assert over-privilege.

Warns Intruders

One afternoon some while ago I was walking with one of the dogs, a fox terrior we call "Cal" in a hillside field. In the field a deep gully had washed and been filled with cornstalks to prevent further erosion.

On top of the packed cornstalks a skunk was strolling. His jet black coat with a white strip down the back against the tawny background was pretty in the sunlight. It was an unusual daytime scene, for skunks rarely roam before nightfall.

He saw me and the dog but entertained no concern about us. When we got within about 30 feet of him, he, without interrupting his ambling stroll, raised his tail slightly.

Dog Ready To Run

We stopped, for both Cal and I knew the skunk's ways. Cal dropped a pace behind me—he was willing to let me fix the standard of prudent discretion.

He was deeply agitated, he barked hysterically, but his paws bent backward and he kept himself mobilized for instantaneous

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FOX HUNTING NOTES

By W. NEWBOLD ELY, JR.

ONE of the most thorough and comprehensive studies recently made was that by the University of Missouri, called "A Survey of the Resident Game and Furbearers of Missouri." As this survey brings out, intricate legislation has been passed to protect game, furbearers, etc., and certain hawks and weasels have been outlawed as undesirable predators.

Laws have been passed making it necessary to license dogs and restraining strays from running at large. Nothing has been done concerning the most numerous enemy of small game and song birds—the domestic cat. "It should be understood at the outset that the sportsman, the wildlife manager, and the naturalist can have no quarrel with the pet cat which is well fed, which is kept in at night, and whose surplus kittens are humanely disposed of. These are the conditions under which cats are least likely to become a menace to wildlife and most likely to justify general esteem as mousers and pets. Cats stand high in the public regard, and as long as they remain mousers and pets they should be as well protected as any other valued animals. It is because of the night-hunting pet cat, and the stray that hunts all the time, that this species ranks as an important predator."

In 1934 there were 310,000 rural farm families in Missouri. The smallest number of cats on a farm was one, and the largest fifteen, and taking the least possible figure this makes the number of country cats 310,000. In addition, families living in 701 communities with a population less than 2,500 contribute many cats to the nearby game range in the cats' cruising radius. (This is believed to be four miles or less, making the territory hunted over by one cat as much as fifty square miles.) Cats would bring the figure up to 400,000. The number of strays are unknown, but some idea of this figure can be gathered when we know that cats are known to produce two to four litters a year and the number of young are five to nine. In their survey they found that the cats were every one-half to eight miles. They found kittens born in the wilds every one-half to eight miles from the nearest inhabited dwelling, and in all manners of dens, such as logs, stumps, tree trunks, under rocks and holes in the ground.

On a state highway their records of night inspection showed that they "shined" by automobile about one cat in every ten miles, and on country roads one every two miles. With snow on the ground they found an average of eight or ten cats per mile. A further survey brings out that public aversion to killing cats amounts at times to almost a superstition. Forbush, in Massachusetts, estimated that the farm cats in that state killed approximately 700,000 birds a year. He wrote to Dr. Field, chairman of the Massachusetts Commission on Fisheries and Game, estimating that the stray cats killed approximately 2,000,000 birds each year, which would fit in with Dr. Fisher's estimate for New York. Dr. Fisher, who is in charge of the Economic Investigations of the Biological Survey, in his figures says 3,500,000 birds are killed each year in New York by cats. Mr. Pratt's figures for Illinois say 2,500,000. The Missouri survey goes on to state the number of quail and their eggs destroyed by cats each year cannot even be estimated. "The great majority of sportsmen consider the cat as the most important quail predator, and in view of its numbers, the cat probably kills more quail than all other predators combined."

As to grouse, pheasants, etc. Forbush states: "Probably the cat is, next to man, a chief factor in the destruction of the prairie chicken on the plains. Cats are nearly as destructive to ruffled grouse as to bobwhites. Since the introduced ringneck pheasant has become common in Massachusetts, many reports of the killing of these birds by cats have been received. They are taken from the time the chicks are hatched until they are full grown, although the young birds and females suffer most." The main findings of the University are that there should be laws for the licensing of all cats with a license tag on their collars, and that they be kept in at night during the nesting season of birds, namely, April 1 to August 1. Also, make it a misdemeanor to abandon cats or kittens, plus the establishment of an agency in each community for the disposal of unwanted cats and kittens.

The following is written by W. S. O'Hair, an Oklahoma farmer, on this same subject of cats: "Three years ago this spring I was there and saw the game expert, and he told me that he was having trouble with foxes catching his pheasants and that he was going to trap them. He showed me one little half-grown fox that he had got with a trap about a half mile away from the pen of pheasants. I didn't go back to see the pheasants again until about six weeks ago. The head farmer, Ben Eagleton, and I drove out to see the pheasants and talk to the gamekeeper, and he said he was having lots of trouble with cats catching his birds. I said, 'You mean foxes, don't you?' and he said, 'No, I mean cats, I have killed 43 cats here in the last three years and we are still killing them.'

"Down at my house I have an eight-acre blue grass pasture just across the road from the house, and we had a lot of quail—I think about a hundred. So I asked the State to give me a couple dozen quail so I could have some new blood, which they did. When they sent them, the man who brought them took them over and turned them out and said that was the best place for quail he had ever seen. When winter came the boys took out a shock of grachoma every week. Along in February the boys that hauled it over said 'You haven't any quail, and very little trace—only a few feathers lying along the branches and briars.' I knew there were no foxes and so I told him that when the first snow came to look for tracks. In a few days he told me he had seen a track, so I sent him hunting and it took a week to catch and kill two of the fattest cats I have ever seen. They had killed a hundred quail.

"Last winter a lady called me up one morning and said: 'Your foxes are catching all my hens.' She told me that they had gone in her henhouse the night before and killed three. I told her I would come over and bring my dogs and catch the fox. I took my dogs over and turned them loose in the henhouse. There was no scent of any kind, so I told her I would come over that night and catch her fox. I borrowed traps and set them just inside the door, leaving a space just big enough for the fox to get in. The lady called me next morning and said to come over—she had the fox. So I went over, and there was the biggest 'possum I ever saw. That night we got another 'possum, and she lost no more chickens.

"A fox might catch a chicken coming his way. Dogs kill sheep. Men steal other men's wives. But what the fox generally lives on is moles and ground mice and insects, and is the best friend the farmer has. The cats are catching the quail, and since they want to slaughter our foxes in the middle zone of Illinois I just recommend to fox hunters that we go to breeding cats and turn them loose. Then get some cat dogs and we can run the cats. I'll venture to say that there are five to one more quail and pheasants today in the central zone of Illinois than there will be in three years from now. And another thing, you can take a chicken bone out of the ash barrel, a cow shank out of the boneyard, two hands full of Plymouth Rock chicken feathers, leave them at a groundhog hole and show some of these shotgun toters and they will say the foxes are ruining the world."

The following article from the Louisville Courier Journal probably brings out some points not fully realized by a lot of us. "On November 15 the trapping season began in Kentucky, and every night since then, on the farms and in the open country, thousands of the small animals of wood, field and stream, have been captured by boys and men for their pelts. Some of these boys and men are merciful enough to use the old Indian deadfall which, rightly made, kills at once, and is therefore highly humane. But the greater part use the steel trap, cruelest of implements, which, during the eighty-seven years of its existence, has caused more suffering than any other invention of man. When it was first introduced, Indian tribes refused to use it because of its cruelty, but white men, more savage than the savages, seized upon it as a means of easy gain. In the past twenty-five years, since the discovery that cheap, common furs, not hitherto used, could be plucked and dyed to look like expensive ones, trapping has become the largest organized cruelty in history. Every woman one meets on the street wears furs, and our wildlife is all but exterminated.

"Says Dr. Anthony, of the American Museum of Natural History, 'The fur trade threatens to bring to a close the Age of Mammals which began three million years ago.' In our State, coon, mink, weasel, and fox, will soon be gone forever; skunk and opossum survive only because they are more prolific. And as the small furbearers have disappeared, the two farm pests, rodents and

(Continued on next page)

FOX HUNTING NOTES—Continued

insects, have multiplied alarmingly, making the raising of food more difficult and costly every year. For the small furbearers, the mousing hawks and owls, and the song birds are the natural destroyers of rodents and insects, and without them man cannot win the battle. Recent researches by biologists of the University of Michigan (first ever made on a large scale) show that rodents make up 83% of the weasel's food, 65% of the red fox's, 37% of the mink's, 23% of the oppossum's; while the skunk is the great insect-eater, 80% of his summer food being harmful grubs and other insects, such as army worm, tobacco worm, white grub, grasshopper, etc., with a fair rodent proportion in winter.

"Contrary to the old notion, not one of these proved to be a large destroyer of birds and poultry, which constitute only 9% of the weasel's food, 6% of the red fox's, 3% of the mink's, 2% of the skunk's and less than 1% of the coon's, the opossum being the only one whose bird and poultry ration is as high as 24%. The rat is the chief poultry destroyer, and its sins are usually laid at the door of the small furbearers. In all the 1,700 skunk stomachs examined, not one trace of a game bird egg was found, and in the 580 fox examinations the bird egg ration was only 1%. When the small furbearers are all gone, along with the mousing hawks and owls, and with the song birds (50% of which have disappeared in Kentucky in the past twenty years), our farms will be in the same condition that has befallen large sections of the West, where, following mistaken poisoning and trapping campaigns against the coyote, all the small furbearers were killed off, and rats, mice, groundsquirrels, gophers, prairie dogs, jack rabbits, now possess the land, having increased beyond all control."

OUR WILD NEIGHBORS By EARL L. POOLE

THE BLACKSNAKE

(Coluber constrictor)

The Blacksnake or Blue Racer is one of the commonest of the larger snakes over most of Eastern North America. While many people suppose it to be venomous it is, as a matter of fact, entirely harmless to man; but will sometimes stand its ground and strike viciously. If it can escape, however, it will usually do so with a speed that is truly surprising.

A scared chipmunk is a pretty lively animal, yet I have seen a Blacksnake follow one so closely that they seemed to be parts of one and the same creature. Unfortunately, the chase ended under a pile of stumps, where I could not see its outcome.

The Blacksnake is also at home in bushes and trees, ascending the latter to a height of 20 or 30 feet, when hunting birds' nests, and often enters the burrows of small mammals to hunt their tenants.

From late October until April or May, it retires to some deep rocky crevice or burrow to hibernate, sometimes sharing the dens of Rattlesnakes and Copperheads, with which it appears to live in a state of mutual tolerance, giving the lie to stories of its enmity for these species. On one or two occasions it has been reported to have eaten small specimens of both these species. Its general prey, however, consists of meadow mice, other small mammals, birds, eggs, smaller snakes, frogs, toads, and insects. To what extent it crushes or constricts its prey in its coils, is a matter of controversy. It is certainly not a constrictor in the same sense as the King Snake.

In late June or July the Blacksnake lays 12 to 24 (or even 40) white eggs, of a long, oval shape, about 1⅝ inches in length. These are tough and leathery, with a surface like coarse sandpaper. These are laid in sandy or loamy soil under a log or flat stone, and are allowed to hatch of their own accord.

After a month or more the small Blacksnakes hatch. They are then less than a foot long, marked with black blotches on a grayish ground color, and bear little resemblance to the adult, which is entirely black with the exception of a white area on the chin and throat.

CONTROL OF THE NASAL BOT-FLY By WILLIAM HILLER

EDITOR'S NOTE: The following article was written by Joseph Bardy, of Philadelphia, who based it on his translations of the notes in German kept by William Hiller while acting as a game warden in the foothills of the Black Forest, State of Baden, Germany.

Very little is known in this country about the nasal bot-fly, Cephenomyia phobifer, Clark, a serious pest of our deer since 1935. Therefore, observations on the insect and a description of a successful method of control, practiced while serving as an assistant game warden during 1916 and 1917 in the foothills of the Black Forest, State of Baden, Germany, will prove helpful.

It was noticed that when bot-flies hovered about roe deer, roe bucks and fallow deer they appeared uneasy and nervous. After the eggs were deposited deep in the nasal passages, the animals snorted, sneezed, tried to rub their noses with the forelegs, brushed their heads against tree trunks, rarely ate and rapidly lost weight. Later when their throats became full of maggots, the deer stood with their backs humped up, their snouts on the ground, discharging stringy mucous. They seemed entirely oblivious to their surroundings.

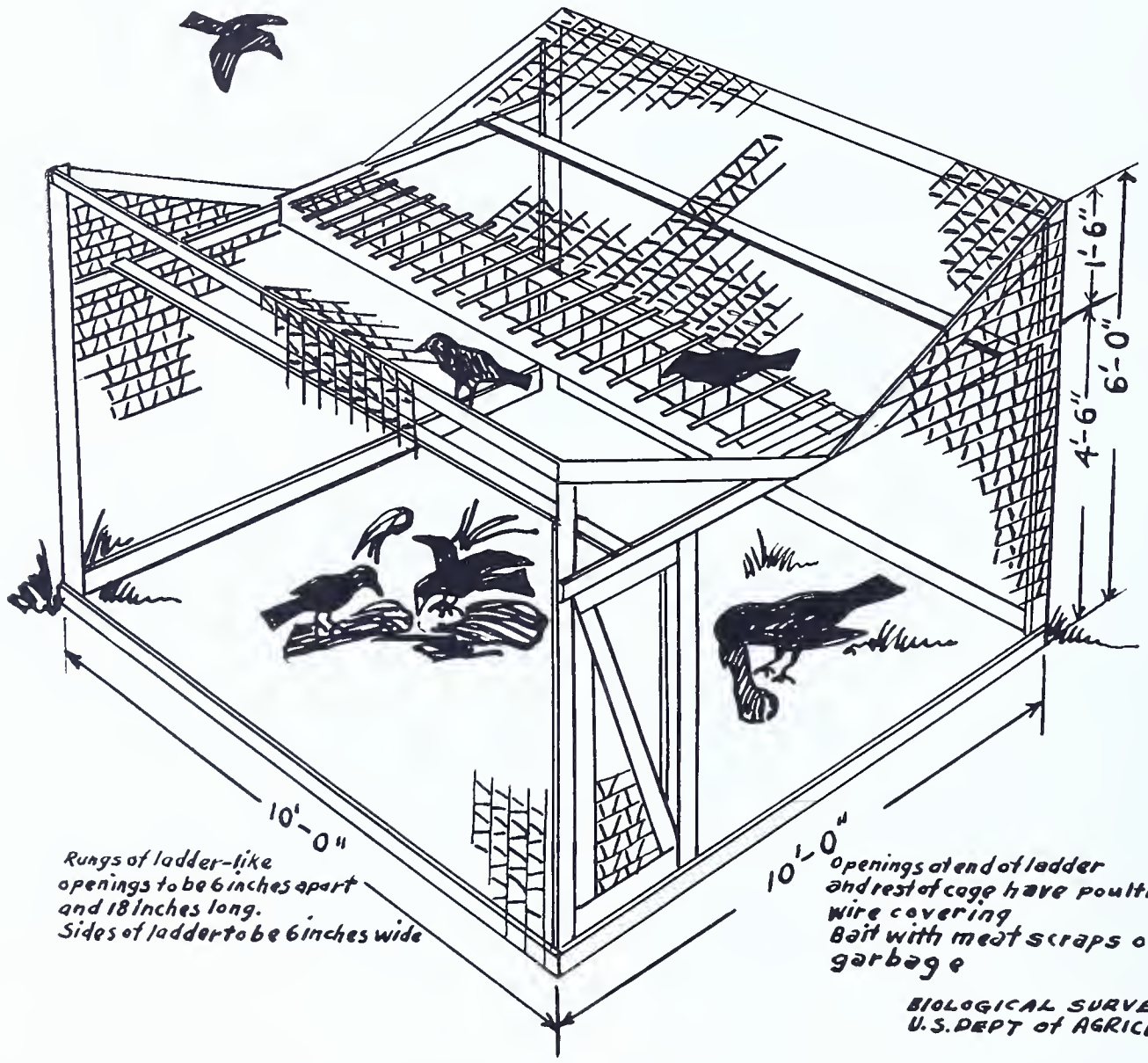
After a heavy rainfall specimens of the soft-bodied, weak bot-flies were easy to collect for study by looking on the foliage of trees and shrubs surrounding the enclosure in which the doomed animals were kept for observation.

Furthermore, pied flycatchers, spotted flycatchers, phoebes and wood pewees were discovered perched on trees near the ailing herd. These frequently swooped down among the deer and apparently caught insects. To complete the evidence connecting the birds with the destruction of the parasites, a few were shot and upon examination of the crops, bot-flies were found.

This led to a logical and effective plan of control. The infected deer were shot, coal oil poured on them, and then they were burned and buried to destroy the eggs and larvae of the flies. The birds mentioned above breed principally in cavities of hollow trees, which were lacking, of course, in the efficiently supervised Black Forest. Accordingly, egg-shaped nesting boxes about five by ten inches were constructed of clay, with a hole in the upper third and a small landing shelf on the lower edge, and securely fastened to trees near the infested animals. The outer surface of each box was glazed to keep red squirrels, weasels and other animals from entering it. The birds soon made their homes in these man-made structures and quickly disposed of numerous bot-flies. In three or four years the number of stricken deer decreased so noticeably that only rarely did an occasional case present itself.

By employing similar measures here for the destruction of afflicted deer, thus eliminating the early stages in the life history of the bot-fly, and encouraging our flycatchers, phoebes and wood pewees, as outlined above, to nest near the sick animals and thus exterminate the mature insects, a practical means of saving our native deer is assured.

CAGE TRAP FOR CROWS



A cage trap that can be built from scantling and poultry wire offers one of the best answers for solving the winter-crow problem on the farm, says the U. S. Biological Survey. Wintering flocks of crows sometimes damage crops left in the field and also consume some of the feed farmers put in livestock lots.

Two Oklahoma farmers caught 2,344 crows the last two winters in three cage traps designed by the Biological Survey and placed near each other in the vicinity of hog-feeding lots. The farmers, assisted by a Survey representative interested in testing the traps, attended them daily when the birds were in the vicinity in large numbers. In baiting the traps, they used left-over parts of livestock carcasses and garbage. A few crows were also held in the traps as decoys.

The trap is similar to one that has been successfully used in controlling white-necked ravens in Texas, and is practically self-operating. Crows attracted by bait enter the cage from the top through a ladder-like opening. The space between the rungs is large enough for them to drop into the cage, but too small for them to fly out. The only attention the trap needs is the supplying of bait, caring for a few decoy birds, and removing and disposing of trapped birds.

Plans and specifications for the raven trap are in the Bureau's Leaflet BS-27, copies of which may be obtained free from the Biological Survey, U. S. Department of Agriculture, Washington, D. C. These plans may be followed in building the crow trap, but for the sides of the ladder-like opening the pieces of wood should be 6 inches wide instead of 4 and the rungs 6 inches apart instead of 9.

The Survey recommends the use of the cage trap in fall, winter, and early spring only in localities where crows congregate in large numbers and are doing damage. Even then the effectiveness of the trap depends largely on conditions of food scarcity. Often large flocks of crows are only on a single farm or on parts of the farm, and for miles around the traps would catch few birds, if any.

While crows are more or less clannish, their gregarious habit is most highly developed during the colder months, says the Survey. Large wintering flocks become a problem in some localities as the birds feed upon crops left in the field, and if food is scarce they sometimes become regular visitors at livestock feeding lots.

"On the other hand," says the Survey, "the crow has many good qualities and the use of traps and other control measures should be resorted to only when it takes more than a fair share of the crops or feed. Extermination of the crow would take away a most effective enemy of certain insect pests as about a fifth of the bird's diet consists of insects. Many of these are eaten early in spring, when life cycles of insects are at their lowest ebb and when their destruction results in the greatest good. In some western States grasshoppers form nearly a fifth of the crow's food in August and September. Corn furnishes about a third of the bird's food for the year, but much of this is eaten from October to March, when waste grains often form a large part of the supply."

CONSERVING WILDLIFE

The Story of a Suburban Crown Game Preserve

By G. C. ATKINS

Reprinted from Hunting & Fishing in Canada

IN Halton County, about midway between Toronto and Hamilton, in the Oakville-Bronte-Burlington District, is situated the Woodlands Crown Game Preserve extending along the East and West banks of the Twelve Mile Creek, two miles north of the fishing village of Bronte.

A few years ago in company with the writer, a number of residents of this part of Ontario started setting English ringneck pheasant eggs under hens from their poultry yards. These eggs were, and continue to be, provided by the Ontario Department of Game and Fisheries on the condition that the young pheasants be liberated after a short period of feeding and care. Some 17,400 of these eggs were thus distributed in 1935. The pheasants are the property of the Crown and the cockbirds may be hunted during certain open seasons, arranged through the Department by holders of Provincial gun licenses and a special local license, except on Crown game preserves and on private properties, properly posted with signs forbidding hunting without the owners' permission.

The next step was the appointment by the Department, under the supervision of its District Overseer, of Deputy game wardens who undertake to secure compliance with the provisions of the game and fisheries law. This resulted in a better observance of law and order and an increased interest in the preservation of wildlife in the territory affected.

In 1927 a group was organized and later designated as the Halton Game and Fish Protective Association, affiliated with the Provincial Department of Game and Fisheries. Its members include hunters, fishermen and landowners in the places mentioned and adjoining areas. In 1930 a petition of several members resulted in an Order-in-Council creating the Woodlands Crown Game Preserve of 460 acres to provide a refuge for wildlife. English pheasants and Hungarian partridge were liberated in the Preserve. Both of these species, as well as native partridge, are propagating in a wild state today, and seem to be well aware of the area in which they are safeguarded by game laws designed for their welfare.

Black, gray and red squirrel in varying numbers; Coon, Cottontail rabbits; Belgian hare or Jack rabbits as they are commonly called; Song birds and many birds which destroy harmful insects and grubs, all find sanctuary in the Preserve and add to the pleasure and profit of the rural life and environment.

English pheasants are known to destroy great quantities of grubs and insect pests, and cause little if any harm to market-garden or grain crops provided sufficient moisture and food are available. In the winter season when insect food disappears and weed seeds are covered with snow and ice, friends of these birds provide whole corn and grain for feeding the flocks which come close to barns and cedar hedges for help and protection. Some of the pheasants seek shelter in the reeds along the creek bottom. Then comes the spring and mating season and nests are made in the open fields.

The members of the Association cooperate with the Game Wardens in preventing ignorant and irresponsible carriers of destruction from careless and illegal use of rifles and shotguns in a thickly settled community, from killing fish by dynamite or dragging streams with nets which would destroy the carefully constructed spawning beds, from pollution of the water, from trespass on the Preserve and from illegal hunting, fishing and trapping.

Additional advantages of a protected area, or part of it, are found in the opportunity to maintain a Demonstration Wood-lot under the supervision of the Ontario Department of Lands and Forests which provides information and experts to instruct and advise in the adequate knowledge and care of the forest preserve and wood-lot. Protection from cattle and sheep which would destroy young plant life in the bush is necessary. Plantations of seedling trees supplied by the Department is encouraged and thus groves and windbreaks are established, springs and water supply are protected, creek beds are prevented from drying up and better fishing is one of the pleasing results. The preserve and wood-lot offer interesting opportunities for protecting and propagating our wild creatures.

PREPARING FOR YOUR RINGNECK EGGS AND CHICKS

(Continued from page 8)

Sunflower, rape and strips of corn should also be sown in the growing pen. Rape is very desirable for the birds and is offered as an excellent substitute for clover where the latter is not available in sufficient quantity. The sunflower and corn provide shade for the birds as well as much needed dusting places.

Two Things to Watch

Practically all major troubles encountered by sportsmen-propagators with raising ringneck pheasants can be traced to two main causes—**unsanitary conditions** and **overcrowding.** Both will cause and increase disease, feather and tail picking and will inevitably stunt the growth of those birds lucky enough to pull through. Keep your feeders, fountains and equipment **clean** at all times. Raise fewer birds and furnish more room to those you do raise.

Have your entire equipment and ground prepared well in advance of receiving your eggs or chicks. Arrange to have all setting boxes, coops, feeders, fountains, wired runs, brooders, houses, etc., thoroughly disinfected. Where broody bantam hens are required for hatching eggs, arrange for these well in advance so your mothers will be ready when the eggs arrive. It is well to have an extra hen or two available, in case one should go bad. All this careful preparation will pay dividends.

Success Its Own Reward

Brooder houses should be thoroughly cleaned and dried out well in advance of the arrival of the day-old chicks. White pine shavings should be on hand to provide litter on the brooder house floor. A supply of starting feed should be ready and available for the first feeding. And most important of all, your electric brooder must be turned on and thoroughly tested for heat control for at least several days prior to the chicks' arrival.

By adequate preparation you will have the battle half won from the start. By exercising great care, regularity, good judgment and patience you will raise your birds on through to maturity with good success. Then when the time comes for you and your club to liberate the fine, healthy, brilliantly colored fellows, you will agree that all the preparation, hard work and expense you will have put forth was well worth while, because you succeeded in raising your pheasants — and will have the satisfaction of knowing that they are **good pheasants.**

THE DOOR-STEP FRIEND: THE CHIPPING SPARROW

By DR. GEORGE MIKSCH SUTTON



Field Sparrow above, Chipping Sparrow below

There is no more friendly or confiding summer bird than the little Chippy which is so fond of his human neighbors that he is never found in the woods away from the dwellings of man. His monotonous droning song, which is simply a series of chips many times repeated, is a familiar sound of the farmyard or of the small town where there are abundant trees and crimson rambler roses in which they may nest.

In color the Chipping Sparrow has the dull shades characteristic of his tribe but on the top of his head is a jaunty red-brown crest which is especially handsome just after he returns in the spring. His nearest counterpart among the sparrows is the Field Sparrow which does not ordinarily occur in our yards in the town but in the open fields away from human habitations.

While these two birds are similar in size and in general appearance, their songs are absolutely different and if you were near enough to distinguish the color on so small a part, the bill of the Field Sparrow is always pink, while that of the Chipping Sparrow is black.

Our little Chippies spend the winter in the Southern United States where he may be a most abundant bird. The men who are interested in bird-banding tell us that this species is very frequently caught in the banders' traps. In the winter plumage the bird is somewhat duller and the bright chestnut crown patch is broken up into streaks. They return to our latitude in mid-April and soon busy themselves with the construction of the nest which the construction times quite near the ground in a flowering shrub, a low bush, or occasionally in a coniferous tree. The nest is beautifully made with a foundation of carefully selected plant stems and crisp grasses and a deep lining of black horse hair which in the present day may be very hard to find. The nest is one of the most daintily constructed of all our birds and even after the young have left the symmetrical structure it is a thing of beauty. If the Chippies are nesting in the yard a house cat will often do serious damage either by capturing the young, or parent birds. The young birds in their first plumage are very much streaked above and below but the underparts of the adult bird are clear gray without streaks or spots.

Three or four eggs are laid. These are of a beautiful blue color and are spotted with black, chiefly near the larger end.

The Chippy has entirely beneficial food habits and is particularly fond of measuring worms which it feeds its young especially while they are small. This little friend should be encouraged and protected as much as possible since it naturally enjoys the presence of human beings.

RED DEMON OF THE WOODS

(Continued from page 4))

destruction and denudation. It was one of the most destructive and wide-spread forest fires of recent years. It burned over a heretofore particularly valuable big game area, and cost the taxpayers of the Commonwealth a considerable sum of money.

The origin of that fire was traced back and, of course, was found to have been, as usual, an act of human carelessness. Merely a little insignificant, unattended-to duty was the nucleus of what had developed into a catastrophe of so wide proportions that man was powerless to crush, and which only an element of nature had vanquished. At that particular time numerous other forest fires were raging in scattered parts of Pennsylvania and a continued rain had deadened all of them.

Forests are our most valuable natural resources. Many years ago, when our forefathers came into this country, there was so much forest everywhere that it was done away with ruthlessly. The denudation continued over a long period of time and no thought was given to the fact that future generations would benefit by having with them a portion of that which nature nurtured, developed and protected so carefully during hundreds of years; no thought was given to the fact that at this time (our time) each little remnant of primeval forest which escaped the onslaught of the axe, would be cherished as a priceless possession.

Selfish lumbering interests penetrated even the remotest wildernesses in their craze for wealth. In their wake we have countless numbers of decaying logs strewn about in the grown-over country, proving that carelessness reigned on all sides, and every accessible mountain sector was depleted of its virgin wood, showing that conservation was not practised.

In fact, conservation has come into prominence only in recent years. The realization that forests are indispensable to human welfare has become evident in the minds of the public by government-controlled agencies disseminating information through literature, through the press and other mediums. But the fact that an enormous part of our population now is of urban representation, generally unacquainted with the various precautionary measures necessary when in the proximity of woodland, and the fact that the automobile and the improved road have opened the way into every forest area, thereby increasing the number of transient forest users, creates of necessity a more vigilant surveillance of our forests.

Devastating fires of recent years have been the most dominant, destructive factors involved in suppressing the second forest growth. Forest fire has repeatedly burned over extensive tracts of land where nature has endeavored to replace the old stand of timber; it has done even more—ruined man's own efforts of hand plantation. It has left in its course bleak, barren hills, void of the wild animal life which plays a prominent part in our physical and mental welfare, void of the humus so essential to reproductive soil.

Fellow sportsmen, no system of forestry can be developed into a safe, sane and practical form while menacing forest fires continue to prevail. Our hunting, trapping and fishing will be impaired, time after time, while the red terror of the woods is permitted to go on unrestrained. This costly annual loss to game, fish and forest conservation can be, and should be overpowered.

Every spring, particularly in dry seasons, we observe the heavy, dark clouds of rolling smoke ascending skyward—the result of human carelessness. Records on file in every forest conservation department prove conclusively that the most damaging forest fires, and by far the majority, have been the result of some form of human action. The U. S. Forest Service does not know of a single authentic case of spontaneous combustion. Lightning, the only other natural and unpreventable cause, is accountable for only a very small percentage of forest fires.

It behooves therefore, gentlemen, that we take a more active interest in forest fire prevention. It becomes necessary for us to participate in disseminating timely information regarding the forest fire hazard. Perhaps the best way to do this is through cooperation with our forest conservation departments. You can procure literature, posters, etc., from said departments for the asking, and these can be distributed to, and placed conspicuously in all public places such as schools, libraries, halls, even in stores, post offices, and so on. After all, all mankind is benefited through the forests, and when people are educated to appreciate them and their value they will be more apt to realize how dangerous trifling things such as carelessly strewn smoked cigarettes, cigar stubs, pipe ashes, matches, etc. are when disposed of along the forest waysides.

CROW PROBLEM IS APPROACHED FROM A DIFFERENT ANGLE

By H. E. MAJOR

EDITOR'S NOTE: H. E. Major, of Birmingham, offers an unusual way to get rid of crows. He recommends this method to farmers and sportsmen as sure to get results.

MR. CROW is generally considered immune from the average hunter's gun, but I am about to give to every man who loves to hear the roar of his favorite gun a real honest to goodness secret on how to kill Mr. Crow, even to the extent of melting that favorite gun barrel.

My person reason for passing this on is as follows: A few years ago I had two quail nests spotted. Quail hens were setting, and every morning just about sunrise I would stroll out to these nests—never getting nearer than four feet. I would see these small hens ruffle up their feathers and then very suddenly run off into the weeds. I never touched a single stick or twig—but would be back visiting these nests about the same time every morning because I wanted to have the pleasure of seeing a nest of young quail just hatched. I never realized this pleasure. One morning I started out to the field in which these nests were located and I noticed about one hundred and fifty crows in this field. I scared the crows away, but to my sorrow I was too late. Both of my nests were completely destroyed, in all probability by two individual crows. There is no way of telling how many more nests were in the same field that were completely devoured.

I then personally and immediately declared war on Mr. Crow. Finally after trying crow calls, mounted hawks, owls, etc., I discovered a sure way to kill these killers of our game and song birds.

Eight miles from Hopkinsville, Ky. I discovered a crow's nest with young in it. I immediately got a common alley or house cat, put a small dog collar on the cat and put Mr. Cat in a sack with a stout piece of string hanging out of the bag opening, tied securely to a collar around the cat's neck. Then with my hunting buddy I headed for the woods where the crow's nest was located

We arrived at the tree containing the nest with the cat in bag. I tied a rock to the end of a piece of common wrapping string, and threw the rock over the nest. Next we tied a piece of binder twine to the other end of the light string and pulled it on over to where I could get hold of the heavy string. I then tied the other end of the heavy string to the string hanging from the collar on the cat and pulled Mr. Cat out of the bag and up as close as possible to the nest. I then tied the other end of the string to a sapling so that Mr. Cat remained at or very near the nest.

The fun started at once. My buddy and I never expected to see as many crows, and can't imagine where they came from. Between us both we had four boxes of shells that had accumulated in our hunting coats and vest. Well, we stood below that tree in one spot and in a very short while shot up our ammunition and crows were still flying in and out fighting the cat—and we were out of ammunition. We counted seventy-three dead crows in one pile and we could hear several cripples in the brush.

So boys, when you try this be sure and carry plenty of ammunition, and every time you see a crow bite the dust just say to yourself, "One more covey of birds saved."—Reprinted from Alabama Game & Fish News.

FEDERAL AID TO WILDLIFE RESTORATION ACT

(Continued from page 3)

from other resources of the State. Under the terms of the act, the money cannot be used for routine expenses of game commissions. In other words, it cannot be used for payrolls, for operation of game farms, or for the purchase of game birds or animals to be released for shooting purposes. It probably can be used for the purchase of game for restocking specific projects if, at the same time, provision is made for caring for this stock until it has been built up. It cannot be used for fish-restoration work or for the development or improvement of streams. Any benefits to fish life must be incidental to water development for definite wildlife purposes. The money can be used for revegetating areas for the benefit of wildlife, but probably could not be used for straight forestry replanting. It certainly can be used for planting food and cover plants for wildlife.

Lands to be acquired need not be inviolate sanctuaries but may be handled by the States in accordance with approved game-management practices. Obviously, the ultimate purpose of the act is to insure that the areas shall produce additional game, the surplus of which may be harvested as a crop.

Permanent Future Benefits

Every effort should be made to put this money into permanent improvements that will benefit wildlife and not dissipate it by scattering the funds too widely. One good area developed to its fullest extent will go on producing for years to come with comparatively low maintenance cost, while new money coming in from year to year can be used to duplicate this unit and establish an ever-increasing chain that will go far toward restoring beneficial conditions for wildlife throughout the entire country.

The Federal Aid to Wildlife Restoration Act marks one of the greatest forward steps in the history of American wildlife conservation. By intelligent and close cooperation between the Biological Survey and the State game officials, it can be made the beginning of a true national wildlife program, which, if carried out to the fullest extent possible under the law, can mark as great a revolution in wildlife management and wildlife development as the Federal Aid Highway Act has made in the highway system of this country.

SKUNK CALLED GENTLEMAN

(Continued from page 25)

flight. Toward any other animal, from a mouse to an elephant, Cal would have dashed headlong.

When we stood still the skunk lowered his tail and went on with his leisurely amble. When we moved a step toward him, he raised his tail again. We stopped and the tail went down again. In proportion as we moved nearer, his tail went higher.

15-Foot Limit

In a spirit of experiment Cal and I tried to find just what is the margin of safety in approaching a skunk. No doubt the limit varies with individual skunks, and with their temporary moods. In the case of this one, the limit was about 15 feet.

When we were that close to him his tail went so high as to be rigidly vertical, and in the plume end of it was a tremor. That tremor of the end of the tail, we knew, was the final warning equivalent to the rattlesnake's sharp tatoo.

Cal and I stood still. The skunk ambled unconcernedly down the gully, nosing and scratching here and there for a mouse or a grub, until he disappeared into the woods. —Reprinted Phila. Inquirer.

THE SPORTSMAN AND THE REVOLVER

(Continued from page 24)

The Smith & Wesson .357 magnum is a not too recent development in a revolver, which might acclaim itself, as the most powerful revolver known today. Being the proud owner of one of these arms, I cannot say too much for it. I will explain a few of its finer points to you.

1515 foot-seconds muzzle velocity! Faster by far than the speed heretofore attained by even the fastest of the small calibre light weight bullets shot from foreign automatic pistols. 802 foot pounds muzzle energy! No hand arm ever manufactured has developed within hundreds of pounds of this terrific impact, having with these fine characteristics, speed, power, and accuracy. Never before have you seen published, machine rest groups made by a large calibre hand arm that can in any way compare with those made with the .357 Magnum cartridge.

Its square shouldered Sharpe type lead bullet will shoot through steel plates that are but dented by other cartridges that have heretofore been considered powerful. The .357 Magnum cartridge will upset to .50 calibre in 8 inches of soft paraffin; while other bullets pass through practically unchanged in form. Its penetration in boards is but slightly greater than the 38/44 special, but here again the blasted wood and the condition of the recovered bullet tells of the power actually delivered.

It is a positive fact that the .357 Magnum cartridge has far greater shock power, than any .38, .44 or .45 calibre ever to be tested. And with this power it produces machine rest groups at 20 yards (the standard indoor target range) of less than one inch. At 100, 200, 500 yards, and even beyond, the inherent power and accuracy continues to exist.

While the .357 Magnum is chambered especially for the .357 Magnum cartridge, its accuracy and effectiveness with all the various loads for the 38/44 and .38 Special is actually amazing, making it in my opinion, the greatest all purpose hand arm ever to be developed. It must be remembered that the extremes in muzzle velocity are the greatest ever tested in one revolver—a complete triumph in the system of chambering and rifling. A most interesting fact disclosed by the machine rest groups at 50 and 75 yards is that at these distances the size of the groups does not increase in proportion to the range, the groups actually averaging at 50 yards 1.83" and at 75 yards 2.59".

May I say in closing that this fine arm will possibly be used in the future by many law enforcing agencies, due to its many advantages and fine characteristics.

The sportsmen of Alabama recently organized a Wildlife Federation similar to the one now in effect in Pennsylvania.

Refuge Keeper W. R. McClure reports having killed nine rattlesnakes while cutting boundary lines. One measured 50 inches in length and contained three young.

Motorists should sound their horns when they see game along the highway. Such notice temporarily paralyzes the senses of the animal so that it is not likely to run into the path of the car.

A FOURTEEN YEAR SUMMARY OF PENNSYLVANIA HUNTING ACCIDENTS

	Fatal Accidents			Non-Fatal Accidents			Licenses
	Kind of Game Hunted			Kind of Game Hunted			
Year	Large	Small	Total	Large	Small	Total	
1924	8	30	38	18	113	131	504,130
1925	10	42	52	28	211	239	525,045
1926	7	40	47	23	174	197	524,042
1927	16	49	65	24	255	279	506,501
1928	5	40	45	25	213	238	438,917
1929	13	40	53	27	192	219	509,926
1930	11	48	59	41	250	291	536,401
1931*	37	35	72	75	292	367	581,746
1932	19	35	54	34	241	275	542,703
1933	9	22	31	31	221	252	529,303
1934	8	20	28	31	223	254	574,690
1935	24	31	55	38	214	252	614,929
1936	7	16	23	20	139	159	541,954
1937	18	27	45	28	308	336	(Estimated) 601,349
Total Accidents	192	475	667	443	3,046	3,489	7,525,287
Average per year	14	34	48	31	218	249	537,520

*In 1931 the season was open on both Bucks and Antlerless Deer.

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OUR WILD NEIGHBORS

By EARL L. POOLE



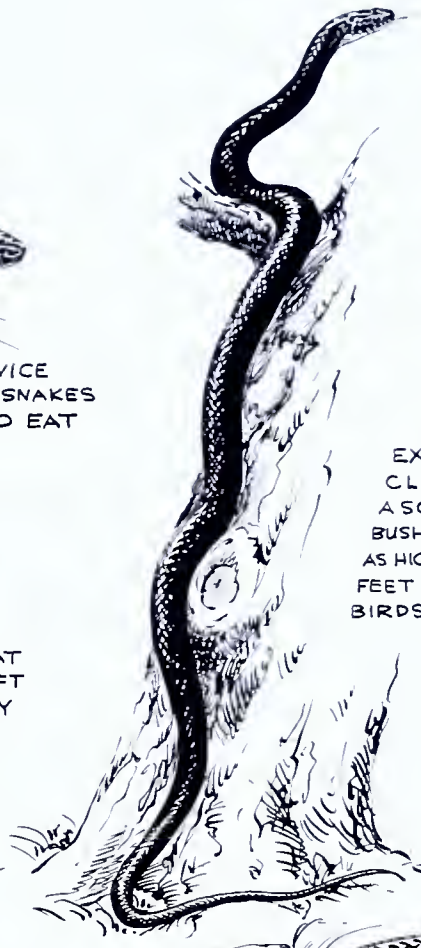
IT SPENDS THE WINTER IN SOME DEEP ROCKY CREVICE OFTEN SHARING THE SAME QUARTERS WITH RATTLESNAKES AND COPPERHEADS, THOUGH IT HAS BEEN KNOWN TO EAT SMALL SPECIMENS OF THESE.



TWELVE TO TWENTY-FOUR EGGS ARE LAID UNDER FLAT STONES OR LOGS IN JUNE OR JULY. THEY ARE LEFT TO THE SUN AND NATURAL HEAT TO HATCH. THEY ARE NEARLY TWO INCHES LONG, WHITE WITH A SURFACE LIKE COURSE SANDPAPER.



THE YOUNG ARE HATCHED IN LATE SUMMER. FOR THE FIRST YEAR THEY ARE BLOTCHED WITH BLACK AND GRAY.



IT IS AN EXCELLENT CLIMBER, ASCENDING BUSHES AND TREES AS HIGH AS THIRTY FEET TO ROB BIRDS' NESTS.



IT FEEDS LARGELY ON SMALLER SNAKES, FROGS, BIRDS' EGGS, INSECTS, MICE AND OTHER SMALL MAMMALS, WHICH IT SEIZES AND OVERCOMES





HEAD, SHOWING THE SMALL TEETH AND TONGUE, SOMETIMES IGNORANTLY CALLED "STINGER"

IT CAN RUN AS FAST AS A MAN AND USUALLY FLEES WHEN APPROACHED, BUT SOMETIMES STANDS ITS GROUND AND FIGHTS VICIOUSLY, ALTHOUGH ITS BITE IS HARMLESS. WHEN SURPRISED IT MAY VIBRATE ITS TAIL LIKE THE RATTLESNAKE.

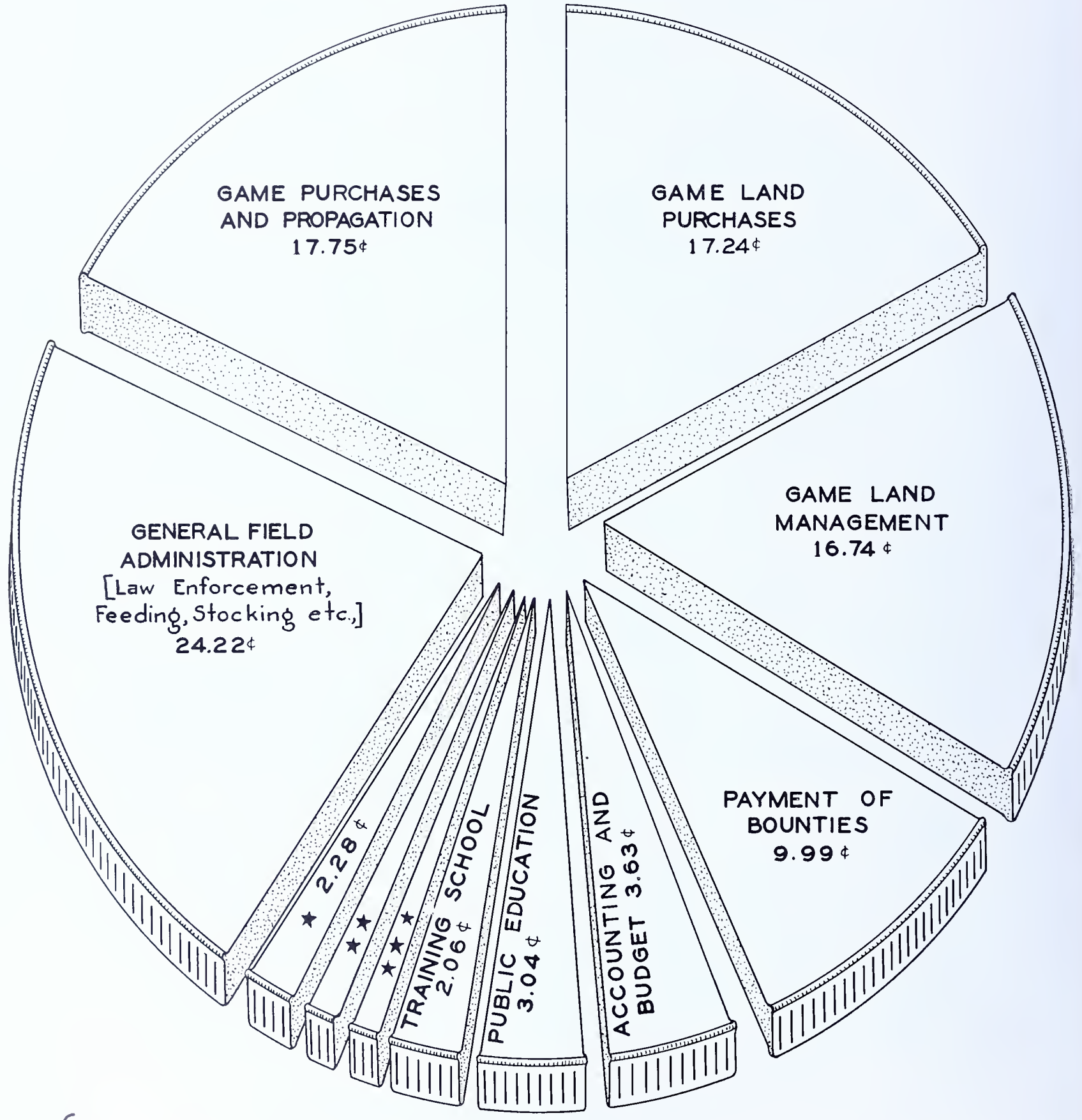
E.L.POOLE

Wildlife Syndicate 1938

THE BLACKSNAKE (Story on page 27)

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(FISCAL YEAR ENDING MAY 31, 1937)



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PENNSYLVANIA GAME NEWS

Published monthly at 1117-1131 Wolfendale St., Pittsburgh. Pa., for Pennsylvania Game Commission, Harrisburg, Pa.
Executive and Editorial Offices. Commonwealth of Pennsylvania. Pennsylvania Game Commission. Harrisburg, Pa.

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Entered as second class matter at the Post Office of Pittsburgh, Pa., under Act of March 3, 1879.

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Vol. IX, No. 2

EDITORIAL

May, 1938

PAYING YOUR PREMIUMS

THE man who takes out a hunting license is somewhat like the man who buys a life insurance policy, except that the former is paying for the preservation of his sport, whereas the latter is paying for the protection of his wife and family.

The insurance policy holder is obligated to pay premiums which are credited with interest to his policy. The hunter pays no premiums except those which his conscience tells him to pay in the way of service.

The one receives dividends annually, the amount depending on the character of the investments made by the company holding the policy. The other receives dividends depending upon how well the Game Commission is able to administer the affairs of wildlife over a period of years, and what problems and difficulties it has to deal with during that period.

A life insurance policy holder cannot influence in any way the amount of dividends he receives. The hunter on the other hand can personally influence the return on his investment by paying a few self-sacrificial premiums on his policy. And after all where is the hunter who can't afford to pay in some way or other a few unobligated premiums on a game insurance policy which costs him only $2.00 a year?

If a hunter wanted to play the game the way it should be played, he could pay some sort of a premium each month. If he were the owner of a life insurance policy, he would have to pay them whether he wanted to or not, and the returns on his investment wouldn't be any greater in the end. As a hunter, however, he can increase his investment and its potential dividends one hundred per cent by merely contributing a small premium of time here, a little of effort there, and possibly a bit of cooperation somewhere else. It doesn't cost any money to pay premiums of this kind, yet they are far more effective and valuable than money could possibly buy. If a man did nothing more than religiously see to it that he and his friends observe the law, and that his report of game killed is returned regularly each year he could more than pay the premium on his game insurance policy.

If he made an effort to canvass the farmers and landowners in his community, and cautioned them against spring burning of fence rows, fields and woodlots, he could increase his investment considerably. If he were to destroy the enemies of game during the nesting and breeding season, he would add still another feather in his cap, and if he were to protect and feed wildlife during winter, he would aid the Game Commission in making the best possible investment on his original $2.00 policy.

If the 600,000 hunters will each contribute only one day of time annually to bettering wildlife conditions it would be the same as hiring 2000 men for a full year of 300 working days. At $4.00 a day it would mean $2,400,000 worth of service.

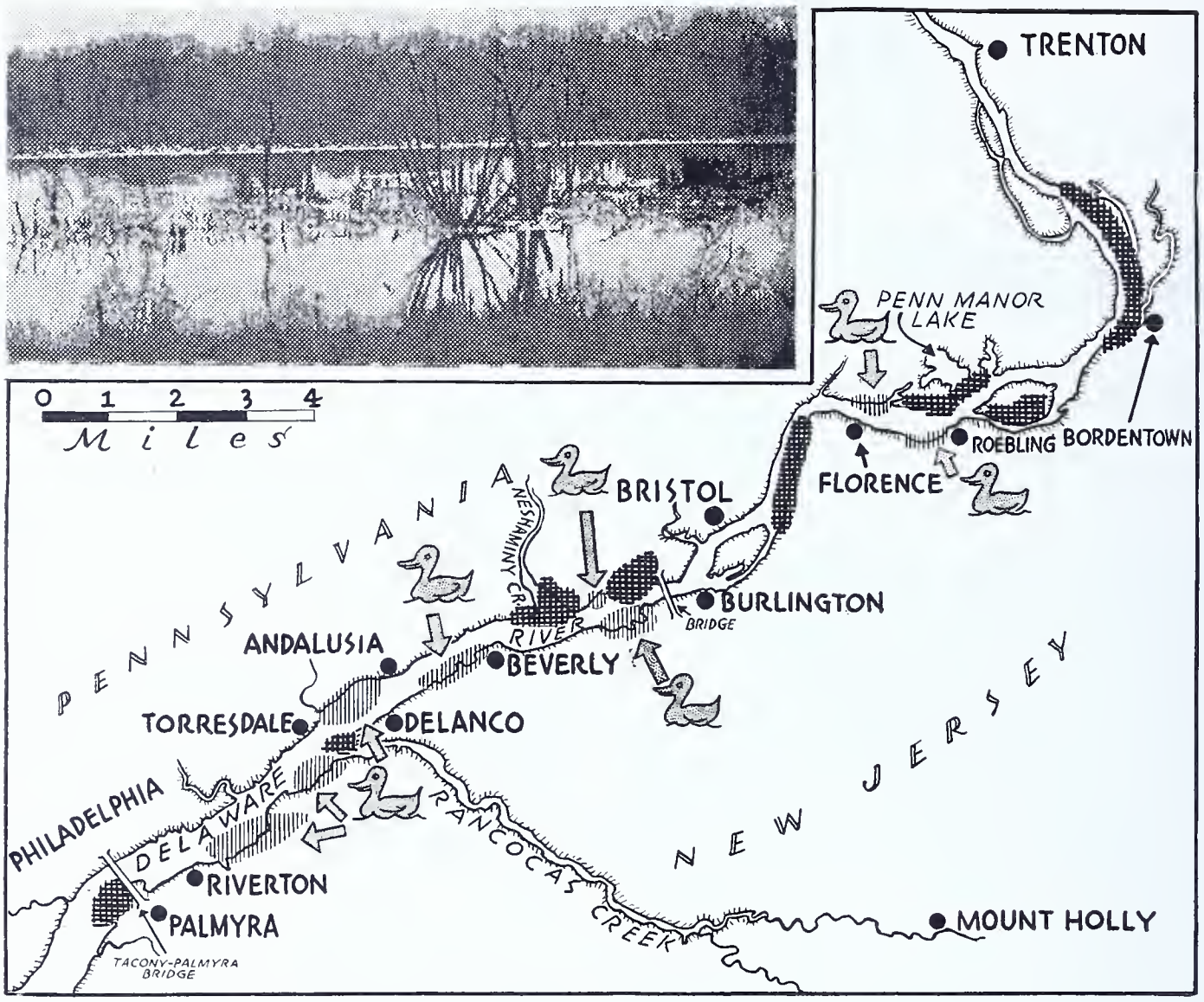
These are just a few premiums which the average hunter could pay to increase his investment, and subsequently his dividends. Just how many are taking advantage of this opportunity to benefit themselves and their brother hunters with better shooting is a question. One thing is certain, however; more of them will have to recognize these obligations seriously if they expect good hunting in future years.

Times are changing. More roads and more automobiles take more hunters into the fields annually, and those hunters must have more game to shoot. A man can't feed a family of twelve on the same income he can feed a family of three. If he tries it, everyone gets a skimpier helping at the table, and some may even go to bed with empty stomachs.

The Game Commission has about reached the saturation point for carrying on and expanding an efficient game administrative program with the money now at its command, and unless each individual hunter starts paying premiums of one sort or other in the form of service, the Game Commission is going to be forced to feed a family of twelve on the same income that it has been feeding a family of three. The only alternative in a situation of this kind is for the hunters to take out more insurance.

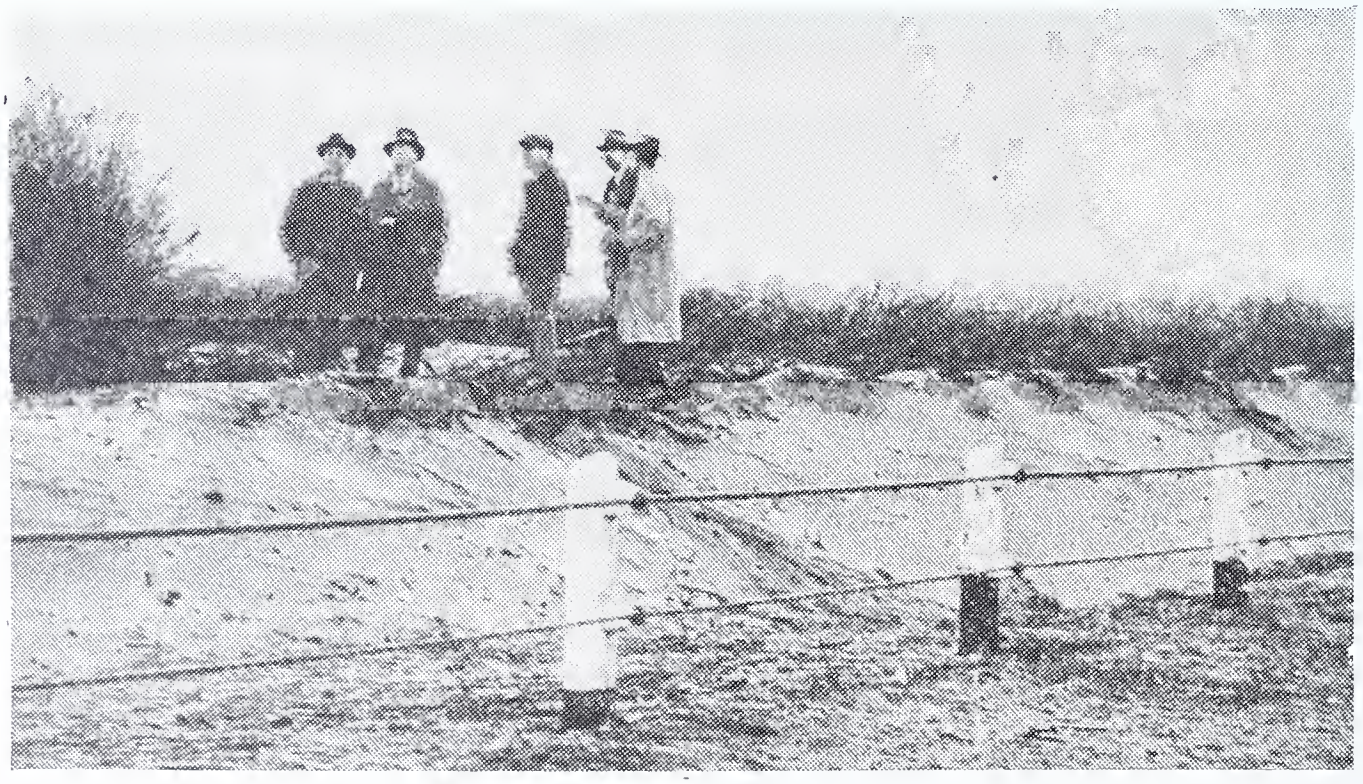
It was recommended several times in the last few years that the license fee be increased from $2.00 to $2.50—fifty cents a year—a penny a week—but apparently few were ready for such a move at the time. While the Commission will gladly continue to operate to the best possible advantage with the present income, it is only fair to tell the hunters of the Commonwealth that they cannot hope for more favorable conditions, and a more abundant game supply, or a more comprehensive system of game management, unless they contribute more to the cause in one way or the other.

Editor's Note: No hunter need wait around for something to do. There are lots of jobs which everyone of them can tackle; for example, the article in this issue by Mr. James N. Morton outlines a number of practical ways in which hunters can contribute to the wildlife movement in their community.



THE TRAGEDY OF THE DELAWARE

By LIEUT. COL. NICHOLAS BIDDLE



Cross-hatched areas on map indicate swamps and marshes filled in by dredging operations on Delaware River. Areas marked by vertical lines are doomed to same fate. Plateau of sand at Pennsylvania approach to Bristol bridge (below) once was ideal wildfowl sanctuary like swamp (above) near Tullytown.



Pumping sludge onto the marshland from the Delaware River channel.

PENNSYLVANIA has never been considered a leading waterfowl state, and in fact, the majority of duck shooters in the eastern part of the State have for years enjoyed their sport in the bays and marshes of New Jersey and Maryland. However, Pennsylvania borders one of the great flyways in the eastern part of the United States for migratory game birds and waterfowl, namely the Delaware River. For centuries, the marshes along the River have furnished resting grounds for millions of ducks during their flight south in the fall and again during their flight north in the early spring, while many black duck and mallards stay throughout the year along the river and use the marshes as breeding grounds.

In addition to the great number of ducks frequenting the marshes during the fall, they afford feeding and stopping places for thousands of reed and rail birds, gallinules, snipe and other shore birds, and it is safe to say that there is not a shore bird or waterfowl, with the exception of one or two species of ducks, which never deviate from the Pacific Coast, that have not used the Delaware River flyway.

Today, due to the method of dredging the channel between Philadelphia and Trenton, a distance of thirty miles, many of the marshes have been filled in and ruined forever, while the remainder are doomed to the same fate unless something is done about it AT ONCE.

The principal marshes that have so far been destroyed are the Thoroughfare and Hawk Island, located on the New Jersey shore just north of the mouth of the Rancocas Creek, the Neshaminy marshes on the Pennsylvania shore at the mouth of the Neshaminy Creek and the marshes east of Scott's Creek above Tulleytown, Pennsylvania. These were three of the finest waterfowl and migratory game bird marshes on the Upper Delaware. The remaining marshes secheduled to be filled in are shown on the map of the Delaware River (see page 2).

For a number of years, dredges have been at work keeping the channel open to the City of Trenton for ocean going vessels. Sucking up sludge and rocks by the hundreds of thousands of tons, they have pumped it out through huge pipes onto the marshes and far beyond, until most sections of the shore of Pennsylvania and New Jersey are covered to a height of six feet, with sand, gravel and small rocks that are void of vegetation and thus far have not been utilized for any useful purpose. The work is under the supervision of the U. S. Army Board of Engineers for Rivers and Harbors, which is bound to spend only as much as Congress appropriates for the work and is doing the dredging in the present manner in order to save considerable inconvenience and expense.

The marshes are utilized through an agreement made with the owners which permits the Government to pump the material from the channel onto them in place of hauling it away in barges. Unfortunately, many owners are willing to sign such an agreement with a view to obtaining additional land which might be sold for factory sites while others who appreciate the value of wildlife, refuse to sign away their marshes on any terms.

In view of the efforts that are now being made by the U. S. Biological Survey and many conservation organizations to restore marshlands in order to increase the numbers of waterfowl and shore birds which have been so seriously reduced by the destruction of their habitat, resulting from the reclamation and drainage of marshlands for farm and other purposes, it would seem to be a short-sighted policy for another branch of the government to unnecessarily continue the destruction of marshlands.

According to the present plans of the Federal Government, all the marshes on this stretch of the Delaware which are of sufficient size and obtainable, are to be filled in and if the plans are successfully consummated, there will be practically no marshland remaining. The dredging work which has been going on intermittently for several years was discontinued last fall but has now been resumed.

It has also been planned to deepen the channel in the lower

(Continued on page 32)



WILDLIFE IN THE FARM PROGRAM

Simple Methods by Which Farmers and Sportsmen Can Improve Wildlife Habitats on Agricultural Lands

By JAMES N. MORTON

Editor's Note: Mr. Morton will appreciate suggestions and constructive criticism on the material contained in this article which will appear in two parts. It is planned to issue it as a separate compact pamphlet for later distribution to interested parties. The pamphlet will be illustrated with pictures and sketches.

INTRODUCTION

A CERTAIN conflict of interest has been developed between the farmers and sportsmen over a period of years. This has been caused largely by a very small group of hunters who have disregarded the rights of the landowner; who have torn down fences, injured livestock, and in many other ways made themselves objectionable. In order to protect himself the farmer posted his land against hunting, and thereby excluded the good sportsman who is in reality a friend of the landowner, the very one who could be of assistance in protecting him from the acts of the thoughtless hunters.

Sportsmen Would Aid Landowners—As a means of bringing back the cordial relations which formerly existed between the two groups, and at the same time arrange for measures to restore some of the favorable game habitat which a few years ago was found in abundance, the Pennsylvania Federation of Sportsmen, at their meeting February 12, 1938, endorsed the preparation of this pamphlet designed for farmers and sportsmen interested in improving conditions for wildlife on Pennsylvania's 190,000 farms. The Consolidated Sportsmen of Lycoming County were, to the writer's knowledge, the first countywide group to enter into a cooperative arrangement with the landowners for the purpose of improving wildlife habitat. In that county, the club offers prizes and helpful advice to farmers who carry on such work.

By far the largest percentage of sportsmen in Pennsylvania are interested in hunting what is usually referred to as farm game, such as quail, rabbits, and ringneck pheasants. The scarcity or abundance of these species depends to a great extent upon the amount and distribution of the food and cover found within their respective ranges. Where there is a lack of proper game food and insufficient cover, the game crop or supply will not increase regardless of the fact that birds raised at Game Farms are released, or that there is satisfactory predator control, or that good game laws with an efficient corps of highly trained protection officers are available.

Wildlife Dependent Upon Farm Practices—It follows, therefore, that farmers to a great extent in their agricultural pursuits have a certain amount of control over the supply of these farm game species, as well as such forest game that is found in or near their woodlots. As a general rule, farmers are extremely interested in wildlife, this fact is evidenced in many different ways. This interest is manifested in the winter feeding of game, control of predators, and in taking care of young birds or animals left motherless. Quite often they do not, however, realize the effect of certain farm practices on the welfare of game birds and animals, or their effect on seed eating and insectivorous birds.

There are scarcely any farms which cannot be made more attractive to wildlife with the exercise of a little thoughtful planning. As a guide for improving the habitat for farm game species, a number of suggestions are herein outlined which, if followed, will improve conditions for wildlife and at the same time many of them will result in direct benefits to the landowner.

GAME FOOD AND COVER

Any farmer knows that to raise crops he must save some good, virile seed stock for planting the next year, and that he must carefully care for the young plants that the seeds produce. In this way only can he hope to harvest a good crop each year. The forester or timberland manager knows that to harvest the maximum crop of trees he must carefully protect the young shoots that spring up when older trees are cut, that he must leave seed trees of certain species and that these must be provided with suitable conditions under which to exist.

The same principle applies to game crops. In order that a maximum crop may be harvested each hunting season, some attention must be paid to it during the balance of the year. It is certainly impossible to reap a bumper game crop each year by ignoring the seed stock and the young produced by it until the time for the next harvest. Constant attention to its needs is necessary. Wildlife's two fundamental and most necessary requirements are a food supply and adequate cover. Just as the plants on the farm or in the forest require definite conditions for growth, so do birds and animals need proper conditions to influence their development and to assist them in raising young.

Good Results Obtained Without Expenditures—Farm game development does not necessarily require an expenditure of money on the part of the farmer, good results however, can be obtained

if he will refrain from doing certain things that are detrimental to wildlife, such as burning pastures, cutting all growth along fences and gullies, grazing all of the woodlot, and other practices.

Utilizing Waste Spaces—Experience has shown that it is nearly always possible to increase the supply of wildlife, even on heavily tilled areas, without interfering with the customary crops grown there. It is simply a matter of utilizing waste places—eroded gullies, fence corners, creek bottoms, woodlots, wasteland, etc.—so that wildlife will have sufficient food and cover.

In other words, wildlife management is not a practice that must be conducted independently on the farm. It can be made a part of the many other farm and soil erosion control operations.

It is only too true that the best wildlife management on the farm quite often is not the things done at special expense for that purpose, but of carrying on the usual farm operations in a way to protect and encourage wildlife rather than to destroy it.

What game requires primarily is a favorable habitat, a good home. This favorable condition can be secured only by providing suitable food and ample cover. As already indicated, wildlife management, to a great extent, is a problem of food supply and adequate cover.

What Constitutes Food and Cover—Wildlife food is an assortment of food-producing plants which provide a variety of berries, nuts, seeds, etc., during all seasons of the year. The various species of game need a variety of food in order to meet their individual requirements. In this respect they do not differ materially from humans.

Cover for wildlife is a broad term, and includes such uses as winter cover, refuge cover, escape cover, nesting cover, roosting cover, and resting cover. Various types of growth are required within the limits of the area over which the species travels in order to secure the desired cover conditions. The use of various types of cover is not merely a matter of choice, but is essential.

Uniform cover conditions have a tendency to limit the number of species, or the number of individuals, or both, whereas an assortment often increases the number of both species and individuals. This means that a farm having a woodlot, brushy gully, fence rows, wooded swamp, grassy swale, weeds, standing corn, standing clover and with crop stubble can support much more wildlife than a farm that has only stubble fields or only standing grain or any other uniform habitat used by wildlife.

Cover must also be distributed throughout the area to be of most value to wildlife. It is also essential to have various coverts connected by brushy lanes for use of wildlife in moving from place to place. The different kinds of farm game cover are briefly described in the following paragraphs.

Winter Cover furnishes protection during winter from severe weather and from enemies. Clumps of evergreens planted close together are valuable in this connection. Dense thickets of low willows and hawthorn or plum thickets are also good winter cover.

Refuge Cover includes such material as will provide a refuge or haven where game cannot be easily driven out by hunters. Dense willow thickets, boggy marshes overgrown with such materials as reeds and sedges, or thick undergrowth in woodlots furnishes good cover. A farm should have as many of these dense thickets as possible.

Escape Cover is a heavy growth of thorny shrubs, vines, briars, etc., where birds and animals may escape their predatory enemies, such as hawks and owls.

Nesting Cover is vegetation such as weeds, grasses and grains, where birds locate their nests. In order that young birds may have an opportunity to mature it is desirable to prevent as much as possible the destroying of early nests. Game birds are nesting before the new growth of the year has reached a size sufficient to furnish protection. This lack of nesting protection greatly increases the chances of the nests being broken up. If their nest is destroyed they will, however, usually continue to reset a number of times until a nesting is successful. In order to insure early undisturbed nesting it is, therefore, essential to provide nesting cover from the growth of the previous year. Leaving the outer two or three swaths of the hayfield uncut on one or two sides of the fields will provide sites for nesting. It is preferable to leave uncut and unplowed the strips along gullies, swales or stream banks rather than along fences because the fence posts will give an advantage to crows searching for eggs.

Roosting Cover for farm game species usually consists of dense growth, such as thickets of evergreens, hawthorn or plum thickets, rank growth of meadow grass, briars, willow, etc.

Resting Cover is vegetation which provides shade in summer or a small opening near dense cover which will be sunny in winter and give protection from wind.

Travel Lanes—In addition to the types of cover to which reference has been made, there is also a decided need for travel lanes. Travel lanes serve wildlife and are as necessary to it as our highways are to us. Each farm, by all means, should have a good system of these travel lanes. These are narrow strips of cover connecting two separate clumps of cover or connecting the roosting or nesting cover with the feeding ground. They consist of brushy fence lines, strips of hay or grass, gullies or stream banks where there is a growth of shrubs, vines and weeds. If a few feet around the outside edges of the hay or grain fields are left uncut, they serve as good travel lanes and provide food during fall, winter, and spring. Leaving some of these strips unplowed will provide nesting cover the following year.

PRODUCING FOOD AND COVER NATURALLY

In order to provide better natural food and cover conditions, farmers, wherever possible, should leave at least some brushy growth along fences. A four to six foot strip should be sufficient. Such growth provides nesting and escape cover, feeding places and protected travel lanes. Of course, plants which might harbor injurious insects or destructive plant diseases should be eliminated. **Untold harm is done to the cause of wildlife through the clearing, each year, of all fence lines.** While it is held that such clearing practices tend toward neatness, they nevertheless destroy the nesting and other cover which wild creatures must have, including the food plants and the vegetation on which insects are found. They also destroy much valuable cover along which game birds and animals travel to other feed. Some persons look upon the leaving of brushy fence rows as undesirable because of the few feet of farm land which may be eliminated from the growing of crops. There are, however, many advantages to be derived from the brushy fence row.

Game Is Of Great Value to Farmer—It has been pointed out for years that game birds benefit agriculture by eating insects and weed seeds that are detrimental to crops. It has also been shown where game cover benefits agriculture by protecting insectivorous and seed eating birds, which assist materially in holding insects and other agricultural pests in check. The dollars and cents value of wildlife to farmers in this connection is difficult to determine, but is without question enormous.

An estimate of the value of wildlife in destroying insects has been made by W. L. McAtee of the U. S. Biological Survey. This estimate is 22.6 cents per acre for the eastern region of the United States, and 13.3 cents per acre for the western region. These figures indicate that wildlife can be numbered among the farmer's most valuable allies and therefore certainly should be given the proper consideration.

Game Cover Valuable In Preventing Soil Erosion—A considerable amount of soil erosion can be prevented by permitting a heavy



An island of cover in cultivated fields provides a safe retreat for wildlife and protection to them while feeding.



Brushy gullies and fence lines provide wildlife with travel lanes so essential in furnishing protection while traveling from one place to another.

grass or shrub growth to remain along gullied areas, stream banks and in strips on steep hillsides. Everyone knows of the evils of soil erosion and of the tremendous toll taken in good soil each year from practically every farm. The dividing fields into smaller units and permitting strips of sod and low shrub growth between field or divisions thereof, strips of trees and shrubs along steep hillsides, and the retaining of growth along gullies where there is a rapid run-off of water will go a long way toward preventing this destructive washing away each year of valuable soil. These methods used in preventing soil erosion will, at the same time, be useful to wildlife in providing food and cover. Some of the plants which furnish food as well as cover, and at the same time also act as soil binders, are honeysuckle, bittersweet, blackberry, greenbriar, Virginia creeper, dewberry, and grapevine. Information on remedial measures which can be applied where gullies have formed, is available in Farmer's Bulletin 1234, "Gullies and How to Reclaim Them," published by U. S. D. A., Washington, D. C. Valuable assistance can also be obtained from the Soil Conservation Service, Williamsport, Pa.

Game Food and Cover Plants Beautify Farms—A farm can also be made more attractive by having a supply of game food producing shrubs and vines along fences, ravines and in woodlots. Much of the growth which provides food and cover for wildlife is also extremely attractive and highly prized ornamentally. Who is not delighted in the spring of the year with the blossoms of the Juneberry, the redbud, or the dogwood? During the fall of the year, as the trees and shrubs of woods and fields put on their autumnal cloaks, we find many of the most attractive are those which provide game food. One immediately picks out a clump of sumac with its blazing scarlet leaves, or is attracted by the deep red leaves of the Virginia Creeper trailing over the stub of a dead tree. In the fall and winter the berries and fruit of many of them are no less attractive. Everyone is familiar with the bittersweet, the winterberry and the hawthorn. In addition to those mentioned, a great many others provide game food and cover and are also pleasing to the eye, either from the standpoint of flowers, foliage or fruit.

Many Small Areas Preferred—Where there are unused, rough, or rocky corners of fields, or where there is a ditch band or a gully, arrangements may be made by farmers for changing the location of a fence or adding to a fence to exclude these small areas from domestic grazing stock. Such areas should then be planted with one or two clumps of evergreens, briars, and berry-bearing shrubs, which can be transplanted from other spots, provided they do not appear naturally because of the added protection.

The fencing of small plots in the farm woodlot or worthless patches in fields which will soon grow up to briars and brush, thereby furnishing food and nesting cover for wildlife, is an effective way of benefiting farm game.

In cases where a swale or marshy stretch of ground is found, especially in ringneck pheasant territory, it should be fenced against pasturing stock. The planting, in these areas, of willow cuttings and certain shrubs, such as elder, arrowweed, spicebush, chokeberry, silky and red-ozier dogwood, and winterberry, which grow in moist locations, will help to improve food and cover conditions.

In order to be of most value to wildlife, it must be remembered that a great many small brushy areas scattered throughout the farm are preferable to only a few large areas.

Wildlife Affected By Harvesting Operations—Leaving one or more narrow unplowed strips across cultivated fields will provide cover which is essential to game birds and animals, and to song and insectivorous birds for nesting purposes and in traveling from one piece of cover to another.

A few rows of grain, or corn on the stalk, left uncut along the edges of fields of wheat, rye, barley, corn, buckwheat, etc., near cover such as fence rows, thickets, or brushy ditch banks, furnishes food for wildlife. If farmers will husk a considerable portion of their corn crop, especially near game cover, from the stalk instead of cutting all of it, the standing fodder and the few missed ears will furnish excellent game cover and food. Shocks of unhusked corn spread out at the bottom and left until spring are also beneficial if located close to suitable cover.

During the harvesting season, valuable cover will be left for birds if the knives of the reapers are set high, at least 8 to 9 inches from the ground. The larger stubbles and ragweed will furnish better shelter for birds that seek waste grains in the field. This growth will likewise enrich the ground when plowed under. Wherever possible, farmers should **defer plowing or mowing weedy stubble strips near fence lines or other cover until early spring.** Doing so will help rabbits as well as game birds. If these areas are to be cultivated in the spring, plowing should be done before the birds and rabbits start using them for nesting and breeding grounds.

The scattering of manure over fields during the winter will provide birds with a considerable amount of undigested grain and with weed seeds. If some loose grain is thrown on the manure, it will be more easily obtainable and will not sink into the snow.

Ragweed Valuable—Ragweed grows almost anywhere and provides one of the best foods for quail. After wheat and oats are harvested, a crop of ragweed will quickly spring up in the stubble fields. Many farmers mow these ragweed fields, leaving them bare as to cover and food for quail, yet the fact remains that there is just as much ragweed the next year as if it had not been cut. No matter how often the fields are mowed, the ragweed returns. If these fields of ragweed in quail territory are allowed to remain standing through the late summer, fall, and winter, they will provide homes for one or more covies. This is only one of the many cases where wildlife can be increased if the landowner will conduct his operations in a way to encourage it.

PROTECTION TO NESTING BIRDS

Hundreds of ringnecks and quail and thousands of their eggs are destroyed annually during the harvest season in Pennsylvania. This appalling waste could easily be avoided if certain simple precautions were taken while mowing. Farmers wherever possible should use flushing bars on mowing and harvesting machines to prevent losses of game birds and eggs during the hatching season.

When a nesting bird is flushed the knives of the mower are jumped over the patch of grass around the nest. The birds finding their nests unharmed, will immediately return and finish hatching their broods. It is particularly important that flushing devices be used while mowing the first 30 to 50 yards around the edges of fields where the majority of the game birds nest. Arrangements should be made by the farmer to take care of the eggs when a nest is accidentally mowed over and the mother bird crippled or killed.

There is a decided need for these flushing devices. Their potentialities are almost unlimited. It has been estimated that if only one egg were saved for every acre of land in hay, wheat, oats, etc., over 167,000,000 birds would be saved annually in the United States. This great potential benefit far outweighs any slight delay or inconvenience or the value of patches of hay left standing.

English Type Flushing Bar Is Best—A number of different types of flushing bars are now in use. The English type, perfected by Dr. P. F. English in Michigan, has proven particularly effective.

The English flushing bar consists of a light-weight pole about ten to twelve feet long, attached to the front end of the tongue of the mowing machines, and projecting over the path of the cutter bar.

From this pole, in the approximate positions shown in Figure No. ...., and 8" to 10" apart, are suspended short wires, to the ends of which have been attached short lengths of old chain (old cross links of auto chains are excellent). The ends of the chains

(Continued on page 30)

A REPORT ON WPA ACCOMPLISHMENTS IN WILDLIFE CONSERVATION

By W. GARD. CONKLIN

APPROXIMATELY 70 additional project applications have been filed during the past few months, many of which have been approved and in operation. A few are still pending in your various offices, I believe. Most of the 70 additional projects are for work on State Game Lands for which the W. P. A. has allotted a total of $618,000.00, and the sponsor's contribution provided for in the application amounts to $26,000.00.

Work still to be accomplished for the Game Commission includes repairing or rebuilding of dirt roads, cutting operations in forest territory to improve food and cover for wildlife, sowing grains for game food, cutting out or mowing boundary lines, etc., on State Game Lands, and materials for our educational program.

Comparatively few of the projects, except those for dirt roads, will require much expense in future maintenance. They are not revenue producing, nor will they affect taxable valuation of property, since Commonwealth-owned properties are not subject to taxation. They all, however, accrue to the benefit, directly or indirectly, of about 600,000 hunters of the State, as well as the public generally.

Accomplishments

Among the useful operations accomplished on the four State Game Propagation Farms were:

1. Construction of game bird holding pens of various types and sizes.
2. Road construction and improvements.
3. Flood control.
4. Rehabilitation of buildings, grounds, and equipment.
5. Planting valuable trees and shrubs.
6. Extension of very necessary water lines.
7. Installation of septic tanks.

Certain of the outstanding accomplishments which have tended to increase the value of the many blocks of State Game Lands widely distributed through 53 of the 67 counties of the State, mostly in forest territory, were:

1. The completion of a dam covering approximately 40 acres which will be a desirable resting and nesting place for wild waterfowl as well as providing better fishing. There were also a great many small dams constructed on streams for the benefit of fish life.
2. The necessary work in connection with the establishment of a nursery for the raising of asiatic chestnut and game food producing shrubs.
3. The W. P. A. Transient Camp in Centre County also established on State Game Lands another nursery for the raising of game food producing shrubs and trees. This work likewise included the fencing of the area to protect it from deer and domestic livestock.
4. Clearing, and preparation for planting of cereals, of innumerable small plots comprising approximately 200 acres.
5. Construction of approximately 400 feeding shelters under which game can be fed artificially during the winter.
6. Establishment of 8 new game refuges, including the brushing out of the refuge line and placing the wire.
7. Cleaning out and laying up of rough walls around 85 springs to make the supply of water more accessible to the public.
8. Pruning approximately 5,000 apple trees on State Game Lands to stimulate the production of fruit on these trees, which in turn will provide added and very essential food supplies.
9. Planting approximately 55,000 seedling trees and shrubs to provide food and cover for game.
10. Brushing out and marking 1,039 miles of boundary line around several tracts of State Game Lands. These brushed lines, in addition to identifying on the ground the many miles of Game Land boundary, also serve as a means of checking forest fires, and provide a desirable trail over which persons can travel while hunting or in other recreational pursuits.
11. Brushing out approximately 388 miles of forest fire trails through the Game Lands. These trails serve as a means of forest fire control and also provide very desirable openings for game. They are used as feeding grounds, play places for young and old birds and animals, and as dusting places.
12. Repairing and making fit for travel of approximately 112 miles of roads on State Game Lands. These roads are so constructed that they do not invite use by the public but are passable for protection, management and administration purposes. They make it possible to get fire crews more speedily onto Game Lands and enable field officers of the Commission to get feed and salt into the more remote sections. About 235,000 acres of State Game Lands have been made accessible by C. C. C. Camps, W. P. A. Projects, etc.
13. Building 3 small cabins as temporary headquarters for use of Game Refuge Keepers; and also 6 corn cribs for use in storing grain on the Game Lands to facilitate winter feeding of wildlife.
14. Many other kinds of work was and is being conducted, including the removal of dead trees near trails and boundary lines where such removal would not be detrimental to birds or animals. Removal of this dead material provides better forest fire protection and makes future maintenance of the lines much easier.
15. Thinning operations on several hundred acres of State Game Lands to stimulate the production of more sprout and shrub growth, which in turn makes better deer feeding grounds and more desirable cover and food for small forest-game species.
16. Release cuttings were and are being conducted on innumerable plots on State Game Lands. Such operations provide for the removal of over-topping tree growth near valuable game food producing plants, thus stimulating the production of fruits and nuts.
17. A little over a year ago the Commission sponsored an art project for the purpose of bringing the many important phases of conservation before the citizens of Pennsylvania in the form of effective colored posters. Since that time this project has turned out a neighborhood of 75,000 well colored, well dramatized placards which were widely distributed throughout the State—to the schools, sporting goods stores, post offices, gas stations, etc. The campaign has apparently been tremendously effective judging from the number of favorable comments received by the Department and by the number of requests from other States asking about the project.

    In addition the project has prepared and placed many large road signs, size 4′ x 6′, warning motorists of dangerous deer crossings. These are nicely colored and show a deer jumping in front of an automobile. The deer and the automobile are outlined with reflecting lights. Similar signs, showing a rabbit about to jump from the side of the road, have been prepared for use along the major traveled highways through small game country.
18. Recently the Commission sponsored a Museum Project for the purpose of preparing and distributing a large number of cleverly prepared models in miniature showing the various activities of the Commission and dramatizing such things as the careless handling of firearms, control of predators, forests fires, etc.

Quality of Workmanship

In a great many instances the quality of workmanship was nearly on a par with that ordinarily performed by regularly employed help. In a few instances it was considerably below par, which was to be expected. However, in most instances more man hours were consumed by W. P. A. Workers than would ordinarily have been required for men not in need of relief. That, too, was to be expected, since the best workers in a community are more likely to have employment even in times of economical depression than less capable workers. It is our belief, in this connection, that relief workers should be paid a lower minimum rate per hour than has been the custom in the past, but allowed to work more than the heretofore maximum number of hours per week.

In a few instances the Commission was

(Continued on page 31)

Pennsylvania Game Commission Training School
Commonwealth of Pennsylvania

THIS CERTIFIES THAT

Harold Franklin Harter

has satisfactorily completed the course of instruction and field application in

Game, Protection, Management, and Related Subjects

as prescribed at the Training School maintained by the

Pennsylvania Game Commission

Given this fifteenth day of March, in the year of our Lord one thousand nine hundred and thirty-eight, in witness whereof we have affixed our signatures.

Attest:

PRESIDENT, PENNSYLVANIA GAME COMMISSION

SUPERINTENDENT, TRAINING SCHOOL

EXECUTIVE DIRECTOR, PENNSYLVANIA GAME COMMISSION

This diploma, presented to Student Officer H. F. Harter, is a sample of the award given to each member of the 1938 graduating class.

"FORWARD GRADUATES"



NEARLY five hundred friends of the Graduating Officers crowded the House Caucus Room of the State Capitol, Harrisburg, to full capacity on Tuesday afternoon, March 15, 1938, to attend the second annual graduation exercises of the Pennsylvania Game Commission Training School. Twenty-five resident student officers assembled at that time in full dress uniform to receive their diplomas and the good wishes of their friends. Two non-resident student officers from North Carolina, who also completed the full course of training, were unable to be present, although they were members of the graduating class.

Executive Director Seth Gordon, of the Game Commission, presided and introduced most of the speakers.

Invocation was offered by Rev. Darlington R. Kulp, of Reading, President of the Pennsylvania Division of the Izaak Walton League of America.

Lieutenant-Colonel Nicholas Biddle, President of the Pennsylvania Game Commission, in his address stressed the value of the school training and the importance of the graduates making proper use of their time. Said he, "Young men are apt to over-estimate, if they estimate at all, the length of life that lies before them. It seems to most of them a slight thing to waste an hour when there are so many left. All that a man possesses, he will generally give for life. Why, then, will a man recklessly squander the hours composing his life? Use well the hours and minutes that are allotted to you."

Colonel Biddle also commented on the cost of the school by remarking, "The school in its second year is now past the experimental stage, and in spite of some criticism in certain sections of the State that it is costing too much to operate, I firmly believe that every cent of the sportsmen's money that has been invested in it will be returned to them many times over in the increased efficiency of our Field Force. The school is being closely observed by other states, as it was the first of its kind to be established in the United States; in fact, upon request of the Game Commissioner of North Carolina, we permitted two men from their Game Protective Force to take our course this year without cost to the sportsmen of Pennsylvania, as we felt that we should cooperate with other states in the cause of conservation."

Student Officer John S. Shuler, of Millersburg, Dauphin County, very ably reviewed the work of the School and the extent to which the graduates have been benefited by the training just completed.

Mr. Gordon then introduced the guests who occupied the rostrum, in addition to those scheduled to speak. Among them were Hon. Chas. A. French, Commissioner of Fisheries; Hon. Lynn Emerick, State Forester, Department of Forests and Waters; Hon. J. Hansell French, Secretary of Agriculture; General Frederick B. Kerr, Adjutant General; Dr. Samuel H. Williams, of Pittsburgh University, former member of the Game Commission, and Major Thomas F. Martin, Superintendent of the State Motor Police School at Hershey and Myerstown. The keynote of the short remarks offered by each guest was the splendid spirit of cooperation existing between the various State Departments represented, and an earnest pledge for its continuance.

Commissioner P. W. Foote, of the Pennsylvania Motor Police, in the principal address of the day, explained the importance of police work. He said that the leading function of all police service is to promote safety. "Every policeman should have a knowledge of the law and a knowledge of how to execute it," said Commissioner Foote. He commended Pennsylvania upon its successful program of wildlife conservation and expressed the opinion that with its present organization and plans, this State should continue to lead all others in maintaining good hunting conditions.

In the absence of Governor Earle, who was unable to be present because of a call to Washington to confer with the President, Honorable J. Griffith Boardman, Secretary of Revenue, represented the Governor. Mr. Boardman conveyed the Governor's good wishes for the success of the graduates, and assured the audience of Governor Earle's intense interest in game conservation.

The chairman also presented individually the Staff of the Training School: Wilbur M. Cramer, Superintendent; Robert D. Reed, Assistant Superintendent, and Robert S. Lichtenberger, Resident Instructor.

An excellent demonstration of the discipline and decorum executed at the Training School was shown in the final brief inspection of the graduating class, in complete dress uniform, by Superintendent Cramer and Assistant Superintendent Reed. The new officers, who range in size from 5 ft. 9 in. to 6 ft. 3 in., are of somewhat greater stature and slightly older than those of the 1937 class, and impressed one as being the ideal type to serve as custodians of Pennsylvania's wildlife. There can be no doubt as to their physical fitness for the job at hand.

Colonel Biddle made the presentation of diplomas, assisted by Resident Instructor Lichtenberger. Each graduating officer, as his name was called, stepped forward to receive his diploma neatly tied with ribbons of forestry green and black, and to shake the hand of President Biddle.

Honorable Isaac W. Keim, Deputy Secretary of the Commonwealth, administered the oath of office collectively to the Graduating Class, in an impressive ceremony. Each member stood at rigid attention, with uplifted right hand, as he repeated the oath.

Assignments of the Graduating Officers to their new tasks were read by Executive Director Gordon, who asked the public to give these graduating officers their wholehearted co-operation, and assured those present that as these graduates gain actual field experience the value of their school training in the many phases of the Commission's work will become increasingly evident.

Thus, the twenty-five new officers of the Pennsylvania Game Commission launch a career of wildlife administration, cheered and

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Trapped chimney swifts. Though thousands have been banded their winter home remains a mystery.

THE ART OF BIRD BANDING

By GORDON KRIEBLE

IT is difficult to imagine a person, whether he be farm or city bred, who upon seeing the first harbinger of spring has not experienced a warm tingling sensation. Either openly or secretly he has wondered where that particular bird has come from and where its migration journeys have led since it left for the southland months before.

The migration question is one of long standing and men for generations have sought its answer by numerous methods. The history of these early attempts is quite a fascinating tale of its own but it is of today's methods with which this article is concerned.

It was in the spring of 1928 that I decided to visit a man whom I had been told trapped birds alive and placed tiny numbered aluminum bands on their legs and left them fly again. It was that warm May day that I got acquainted with Mr. Raymond Middleton who was busily engaged building more traps in order to enlarge upon his hobby of birdbanding. Our friendship grew rapidly on a basis of mutual interest and frequent visits followed during which time I was able to learn many details of this phase of research work.

He had started banding birds in July 1921. This was just a few months after the work had been taken up by the Bureau of Biological Survey, Department of Agriculture, Washington, and it was as one of their banders he carried on. The Survey provides him with the bands which come in various sizes and they kept him posted on any new methods that had been devised to take the many different species of birds. His time and the feed and material consumed in this work he donates in an effort to further man's limited knowledge of migration.

From 1921 until 1928 he had operated only one trap and had trapped and banded only 860 birds in 7 years. It was in 1928 he constructed 20 traps and during the fall migration that year he trapped 492 white throated sparrows alone bringing his total that year to 1028 birds, almost 200 more than he had banded in the previous 7 years combined.

Today when one visits his home and starts for a walk around the grounds, the first group of traps is pointed out in a sumac grove in the north corner of his back yard. The second is just outside the back gate in a grove of choke cherries, and another is to be found where a blackberry thicket meets the edge of the woods not so far from the Middleton home. Back in the woods we find two more stations, as they are known, and the sixth station is located beside a small marshy pond.

Each particular station is popular with certain varieties of birdlife because of its location. It is also interesting to know that certain stations are more popular in some seasons than in others, and at times one station may be devoid of bird patronage, while another station less than 100 yards away is fairly teeming with birdlife.

A wide variety of traps are employed in taking the birds. Some are hand operated by a pull string but the majority are automatic and are sprung by the birds themselves as they enter for either food or water.

A seed mixture of sunflower, millet, regular canary seed and chick scratch grain is a highly successful bait for the seed eating birds in the winter season. In the summer season often times bread crumbs, crackers and berries in season are added for attraction.

Attracting the insectiverous birds is indeed another matter and for most species the drip trap offers a solution. This is generally an automatic trap that contains a saucer of water. Above the trap suspended from a low tree limb is a bucket of water and drop by drop it trickles out to fall into the saucer creating a rippling motion that certainly attracts a wide variety of bird life, particularly in the dry summer season.

The fly catchers have proved to be the most difficult to attract to traps since they do not respond to even the water traps. Although many pairs have nested in the vicinity not one has ever been trapped and the only ones that have been banded are those that were banded as fledglings.

One winter Mr. Middleton tried suet for bait in a number of bird traps and reports he had considerable "success" trapping skunks. Occasionally skunks have been attracted to the traps when bread crumbs or crackers have been used. White foot mice are occasionally trapped and on another occasion a mole was taken.

To date Mr. Middleton has banded over 16,500 birds, representing 109 different species. The largest bird he has banded was a redtail hawk while the smallest variety was the kinglets.

Each of the bands that are placed on the birds bears a different number, and each number is recorded in the Biological Survey files in Washington along with the data concerning the species of bird, where and when it was banded, who did the banding and any other information that may concern that particular bird. After the bird has been released if it returns to the same place within a few days, it is known as a "repeat." If it returns the next year or any time after a lapse of a few months it is known as a "re-

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RAISING YOUR PHEASANT CHICKS

By CHAS. W. WESSELL

SPORTSMEN engaged in the rearing of Ringneck pheasants find themselves confronted each season with difficulties commonly connected with game bird propagation, but for which they have no simple and proper remedies.

As the successful rearing of game birds depends, to a great extent, upon doing the right thing at the right time, it is very necessary to have a dependable remedy at hand when the trouble starts. By prompt, efficacious treatment, losses are kept down to a minimum and the quality of the birds raised is greatly improved.

The more common difficulties are listed below, together with some simple remedies which may be applied to them.

Feather and Body Picking

In the great majority of instances, **overcrowding** is the principal cause of feather and body picking. When this occurs early, while the pheasant chicks are in the brooder house, it will be necessary for you to catch up and clip the bill of each bird, being careful not to cut too far back, causing the bird to bleed. This clipping operation is best performed with a very sharp jack knife, drawing the blade carefully but firmly across the tip of the bill, while the bird is held firmly with the left hand.

When the birds have all been clipped it will be necessary to blacken all brooder house windows with a mixture of lampblack and water, leaving just enough light within the house for the birds to see to eat.

It will help a great deal also to tack three or four small spring mouse traps on the wall of the house, close to the floor. A few green lettuce leaves placed under the spring of each trap will give the birds something to pick at and keep busy. Do not place too many leaves in a trap as this will raise the spring too high, causing the birds, as they eat the lettuce away, to get their heads caught and crushed as the spring snaps down. Placing only two or three lettuce leaves in each trap will avoid this.

When the birds begin feather and tail picking after they are six weeks old and in the growing and holding pen, you must obtain a can of North Carolina Pine Tar immediately. This tar may be purchased in pint cans at any good hardware store. Apply the tar in generous quantities on the back, rump and tail of each bird's body. This can best be done with a small paint brush, though some breeders use a small, flat stick. Pine tar is very repulsive to pheasants and one good taste of it is usually enough.

In addition to the pine tar applications, place a generous number of roosting bars in the holding pen. These roosts need only be two or three feet above the ground and provide an excellent place for tormented birds to fly up on.

Rough or "Porcupine" Feathers

When the feathers of the birds in your brooder house "stand up" and assume a very rough, "porcupine" appearance and the chicks appear skinny and scrawny, it is a sign that you are "burning them out" with too much heat. Under such conditions the birds will often shy away from the brooder and act "jerky" and restless instead of contentedly active.

Gradually lower the house temperature until the chicks settle down to more steady feeding and show the normal liveliness and activity of healthy, contented birds. The feathers on sound, healthy pheasants should be bright and lie flat and close to the body.

On the other hand, if the young birds are crowding or "piling up," you are not furnishing them with sufficient heat and unless this is immediately remedied by **gradually** increasing the temperature, real trouble will be in store for you.



Slipped Tendons

If the leg joints of some of your birds are swollen and they are limping around "down on their knees," the chicks are afflicted with slipped tendons.

This may be relieved by reducing the amount of animal protein in the mash and keeping it reduced. While pheasants require a feed containing a higher percentage of animal protein than chickens, there are certain ingredients included in some high protein mixtures which tend to induce slipped tendons.

If your birds are suffering from this ailment, secure the highest grade mash obtainable, containing a lower percentage of animal protein than the one you are feeding. Make this change gradually by combining the two mashes in one or two small feedings, after which the birds should be fed the lower protein feed only.

Young pheasants badly afflicted with slipped tendons should be destroyed.

Loose Droppings

Loose, discolored droppings are a warning that all is not well with your chicks and may be caused by any number of disorders.

Both as a disease preventive and as the best treatment for hardening droppings, water containing a two per cent solution of Mercurochrome should be given the birds at all times. A simplified solution is **two** Mercurochrome tablets to **one** gallon of water.

If your birds have very loose droppings, stand around droopy, hunched-up and with their wings hanging down to the floor, it is likely you have Coccidiosis in the flock. In this case give the birds a good buttermilk flush, thoroughly clean and disinfect the brooder house and burn all litter. Then move to fresh ground.

Gapes

The gape worm is not uncommon among growing pheasants and where the ground is infected with them they will multiply

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FORGOTTEN MEN

By AUSTIN D. HAIGHT

Reprinted from Hunting and Fishing

Illustrated by Marshall Joyce

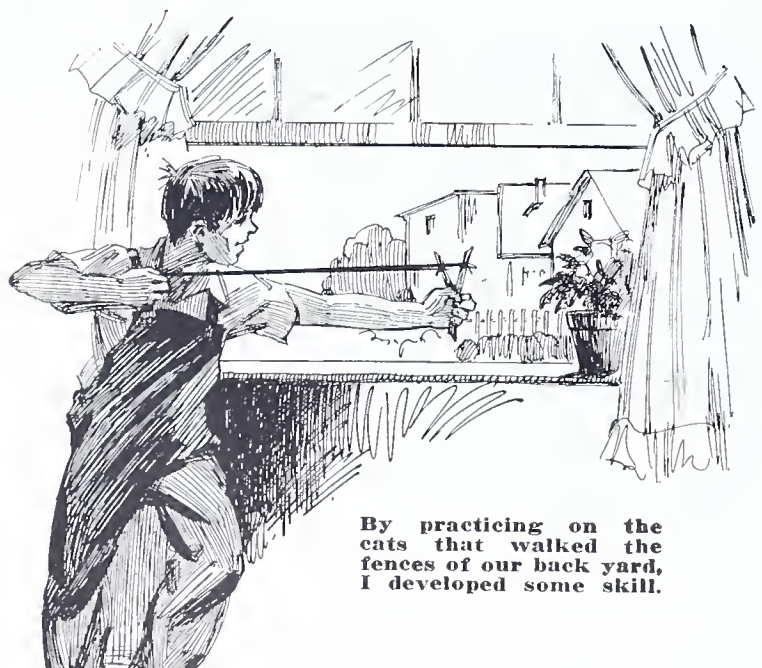


"They ought to be learned young"

AS A SMALL boy I naturally made a slingshot as soon as I was strong enough to use one and by practicing on the cats that walked the fences of our back yard, I developed some skill. Those cats became so well trained from the repeated sting of B B shot that the opening of a window was the signal for every feline in hearing to jump. My only real error was in mistaking the head of a darky for a cat one evening; my marksmanship was perfect. When he arrived with a policeman at our front door I had left to manufacture an alibi by way of the opening on to the roof through which I scuttled to an apartment house roof where I remained to partake of a tasteless supper with another slingshot artist.

In the course of time I became the owner of an air gun. Not to be outdone, Bart, my constant companion, possessed himself of a similar arm. I do not recall how this was done but I distinctly remember why they were both taken away from us. All we did in this instance was to shoot the local miller in the back of his trousers while he was bent over, repairing the mill roof.

The following year Bart and I joined forces and purchased a dilapidated, short-barreled, .22 calibre rifle. To avoid arguments we kept this hidden from our parents, used it when and if ammunition was available. On Fourth of July someone gave us a quantity of blank cartridges, probably thinking they were safe enough in our hands. We actually killed squirrels with these by dropping a shingle nail down the muzzle of the gun. We could not guess where these missiles were going to fly once they were on their way, but a few found the intended marks.



By practicing on the cats that walked the fences of our back yard, I developed some skill.

With the passing of years, we aspired to greater armament and for a time enjoyed a Harper's Ferry musket. We had to use this at greater distances from home because of its awful noise. The old gun fell into the discard when we experimented shooting the steel ramrod into the air. It went I know not where and may have found a mark we little meant; in any event it was gone.

Then there was a cast-iron cannon we used on the Fourth of July to demonstrate our love of country and dislike for some of the neighbors. With overloads of black powder we shook the neighborhood in the early morning and later took pot shots at old buildings, preferably with windows, using stones for cannon balls.

The recoil sent it slithering along the ground for twenty feet. Why it didn't burst and kill us is simply because a Divine Providence guards the lives of small boys.

So far, I believe it will be noted, Bart and I possessed deadly weapons and although we were often short of ammunition our greatest danger lay in the total absence of instruction. I often wonder how we ever survived our long series of experiments. That the lesson was learned is borne out by the fact that he and I hunted grouse together for nearly thirty-five years without an accident.

So much for the boy who has grown up with a gun; now let us look at the man of forty who was so carefully guarded as a boy that he did not have this experience. Because of his age he is supposed to realize the dangers and because of his purchasing power he often finds in his hands deadly arms about which he knows nothing. I recall the case of a trout fishing enthusiast who picked up an automatic rifle and asked if he might take a shot at a mark.

"Just push that button on the side and she's ready to go," said the owner.

She went. First at the mark, then through the roof of the porch on which he stood and finally into the floor only inches from his feet. Hopelessly rattled, he threw the gun into the bushes with a yell.

"Someone stop that damned thing before it kills us!"

Then there was the man who had attained a degree of success which permitted him a month's vacation in Canada. He learned that most men went there with the idea of hunting moose or fishing; he was going to do both. Purchasing a modern rifle that would kill at a mile he decided to practice in the back of his summer home. He placed a board against a sapling and blazed away. That evening a neighbor called with a high temperature and



For a time we were happy with a Harper's Ferry musket

a bill for damages. One item was a horse at one hundred dollars. Poor old Dobbin, the quarter-mile between him and that man had been no protection.

There is no limit to the number of incidents that could be gathered to show the danger of inexperience. The boy who picks up a gun and goes out into the world is dangerous. The man of middle life who has not survived the baptism of fire is even more so. Old Bill Day, a veteran guide of sixty years of hunting gave me the answer some time ago when we were discussing the last greenhorn to sprinkle him with birdshot:

"They ought to be learned young, then they'd know how far a gun can shoot, and which end the shot comes from."

The longer I live, the more firmly convinced I become of the fact that we pay far more dearly for what we do not know than for the lessons we learn.

My activities as a Scouter and my close contact with the boys of the present generation has convinced me that they are more in the class of "forgotten men" than their fathers, when the matter of hunting and fishing comes under consideration. This is decidedly wrong for there is no form of recreation that tends to develop observation and co-ordination better than is found in the woods and along the streams. It has often been said, "To know a man, hunt and camp with him." I believe that to make a man of him, the boy should hunt and camp. That he should be encouraged to learn all he can of the pleasures nature has to offer and that he is entitled to the strength and stamina that is sure to result from his experiences.

Many parents who deprive their boys of these pleasures on the ground that it is too dangerous are not protecting their sons but postponing, probably increasing, the hazard. Boys and men will handle firearms at some time in their lives and the sooner they learn how to do this properly, the safer they will be.

The youngster of today is far more progressive than I was at his age. For some time I have been devoting a few afternoons each week to teaching some of the ordinary practices of the field and wood to a group of boys. I have seen two kill their first flying grouse and my pleasure exceeded theirs. One morning two of my young friends developed the worst case of "buck fever" I have ever known; they missed a buck, starting at fifty yards, fourteen times.

"Gosh, it's an awful feeling," said one, "to have your knees wobble, your hands shake and your stomach all cold."

They had been shooting at a mark all autumn and when they met real game the result was perfectly natural. Yet the danger element under these conditions was lessened by their earlier instruction. A few days later one of them brought down his deer.

To give a boy a gun and tell him to be careful is not very much help to him. In many cases it is all the parent does. A boy should handle the gun and become familiar with it before he is allowed to shoot it. Many have to learn the use of the sights, how to load, and how to carry the gun. At the very start, it is even more important to show the boy the effects of his shots on boards and iron so that he can visualize their destructive power and know what the bullet would do to a human being as it is to teach him how to hit a mark. A few shots at the placid surface of a lake will show how bullets ricochet. He must learn to restrain himself when he finds game on the skyline where a bullet might go on into a village. When he knows what not to do and, above all, why, then, and only then, is it time to show him how to shoot straight. It is surprising how quickly the average youngster appreciates his responsibilities and privileges. If the boy had as much time spent on him to teach him to use a gun as he has to teach him how to dance or even brush his teeth, the element of danger would be practically eliminated.

It should be of interest to some parents to read a letter received from the father of one of "my boys" who wanted his son to enjoy the hunting and fishing that his surroundings permitted, but owing to an unfamiliarity with such pleasures the parent was naturally a little anxious.

December 11, 1936

Dear Mr. Haight:

My son has written to me asking for a gun of his own, as he does not like to be always borrowing one belonging to someone else. I feel that this is entirely commendable on his part, but before allowing him to have a gun I wanted to go into the whole matter quite frankly with you. Personally I feel that he has sense enough to learn how to handle a gun properly with respect to himself and others, but I have known too many accidents with "unloaded guns" to feel that they should be left open to the use of more careless boys.

I would not care to have the gun left in his room at school for other boys to fool with. Before taking action in the matter I wanted frankly to ask your advice and suggestions, since you know better than anyone else, both ———'s personal sense of responsibility and carefulness and that of the other boys.

I shall be glad to hear from you at your convenience.

Sincerely yours,

———.

I had been helping boys to use guns safely and effectively, but this was a new problem. Here was a youngster of thirteen who had been shooting my gun for three months; Christmas was drawing near; it was the opportune time to ask for one of his own. If I said "yes," and stood by my convictions "to learn 'em young," I might regret it as long as I lived; but on the other hand, if I said "no," I might as well throw up my job and dub myself a coward. I felt that I'd be breaking faith with a boy who had been trying to learn all that I had to teach him. But what shocked me was that a father was shifting the responsibility that was normally his on to my shoulder. After serious thought I wrote the father as follows:

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Then there was a cast iron cannon we used on the Fourth of July

MUSTEL *the* KILLER

by

Donald J. Anderson



THE forest world was gripped by the silent tensity of oncoming night—the antelucan period when an uncertain, darkening grey replaces the azure splendor of the firmament. All indications of red had dipped into an invisible West. Cold advanced swiftly, wrapped in light ribbons of mist. Then, suddenly, an owl hooted, sounding empty out of the timber country. The cry was a salute to Night. The work of the prowlers began.

It was shortly after the arrival of darkness that Mustel the killer slipped from a tiny aperture under a moss-covered boulder, then halted to listen. He sat on his short hind legs—fore-paws raised, ears alert, nose sniffling. He was a very small animal, with a flat head and long neck that hinted correctly intense curiosity, and rather large, emerald green eyes. When he moved finally it was in a series of short, lightning-fast jumps, the movements causing little commotion among withered Autumn foliage that littered the forest floor. Tenuous, small in height, but possessing unbounded courage, celerity and bloodthirstiness, Mustel the weasel was undeniably King of the Spook Ridge section of the Lehigh Mountains.

A little less than four years ago, one bleak Winter's day, a farmer boy tramped down a narrow trail carrying a trap in one hand and a slim brown weasel in the other. The boy's face was split by a wide, prideful grin, and occasionally his eyes descended to his dead victim. When he flung the rusty-hinged farm-yard gate forward his beaming father greeted him, "Fine work Billy, catch all those little devils you can lay hands on. They're killers."

That night a baby weasel crawled out from beneath a rotting beech stump and began to prowl—for the first time, alone. His mother was gone and he was compelled to shift for himself. At first it felt strange. He was lonely, afraid. He was too young to be on his own. But a weasel is instilled by Nature with an almost cruel longing to survive—an instinct that demands killing, wholesale slaughtering far beyond the limits of necessity. This with an admirable quality of fearlessness. The weasel survived, remained on the prowl, grew to be respected and feared by all other animals in his district.

Now, four years later, he was Mustel the Killer. Hares, woodmice, squirrels, even larger mammals, had to be constantly on the alert. A sudden leap from the brush, a brief pain as knife-like teeth sank beneath the flesh, and they would be dead. Yes, they respected Mustel—as a school-boy respects the boisterous town bully.

Mustel took a several mile trip occasionally, down to an old farmhouse in the valley. On this trip he passed the abode of Didelphis the opossum—a burrow under the rocks along an old stone-fence—and he always paused to see whether his old enemy had any prey. Some day Mustel would meet Didelphis here, and in a fight would surely win. This struggle seemed inevitable. But thus far Didelphis had been fortunate, Mustel being content to kill and bleed the chickens always to be found at the farmhouse.

This Autumn night was ideal. There was scarcely any moon and there were clouds continually obliterating all but a few scattered stars. Mustel hopped along stones and fallen logs until he reached a narrow brook that rumbled into Trout Creek far down the mountainside. Here he knew was a favorite stamping ground of Mephitis, an old striped skunk.

The air reeked of a terrible odor, hated by Mustel as it was by all other animals. Down the trail there was also the scent of a human being. A rattling chain clinched the story. Mephitis was to be swept away by the Iron dog, the thing that had taken away Mustel's mother years ago.

Mustel followed the trail of the human. It followed the stream several hundred yards, then turned toward the rock ledge that stood as a sentinel over the valley dipped between two arms of Spook Ridge. Here he paused, sniffed. He began then to move swiftly up among the rocks.

A rabbit was struggling in an iron dog! Quickly, he leaped. Without sense of caution. Fear of the iron dog vanished. There was but the instinct to kill. The rabbit squealed, dashed about frantically —but hopelessly, soon to quiver and lay still.

Thus began the strife between Mustel and the trapper who lived down in the valley.

That winter Mustel's fur became ermine. It was but another weapon Nature afforded to her ruthless hunter. It afforded perfect harmony with the snow-blanketed mountains. Mustel was practically invisible. But rabbits also become hard to find. All animals were semi-dormant, active on only the few warmer nights. Mustel never traveled by day except in spring, when the mating instinct seized him.

MUSTEL, THE KILLER

One night Mustel again met the trail of the human being. He followed it. It ran up Spook Ridge and over into the rocky, spring-infested Prison valley.

Prison valley was merely a long series of gulches used many years ago in excavating iron ore. It was a place none too familiar with Mustel. Skunks were very numerous here.

Mustel entered the valley, still trailing the human being. He soon detected blood, and soon came across a narrow pen of sticks, with a striped skunk inside, struggling with an iron dog. Unhesitatingly, he leaped. He dug fast with teeth and claw. The skunk backed up, stamping her fore-paws, and finally hunched her back and emitted the hated scent. Mustel held on. Blood was scarce and here was blood. He did not leave until the skunk lay motionless in her own pool of scent, her beautiful pelt ripped open on her back.

Farther down the trail Mustel found an unfortunate flying squirrel who had fell into an iron dog by chance. Again he killed and sucked. Afterward, he followed the line of traps and killed and destroyed every catch, still managing by good fortune and not cleverness to avoid unsnapped iron dogs himself. When streaks of grey alternated dark shadows from the trees and a brilliant slab of light extended above the mountain summit, Mustel hopped into a narrow crevice at an abandoned mine shaft till night appeared once more. Then he slowly hopped out along the passageway . . . snap! And Mustel felt something clamp on his foot. Terror and great rage seized him. He fought the trap viciously: he bit it, he clawed it with his free legs, he spat at it. Useless. It would not yield.

Instinctively, Mustel relied on his last method of escape. Amid great pain, he began slowly to chew at his leg. It had come that he must use those scissor-like weapons on himself as he had used them on countless luckless victims. He continued to gnaw for several minutes, pulled mightily several times with the strength of his entire body, and was free! He ran away as rapidly as possible, falling several times, but continuing on. Up the mountainside, under a shelf of protruding rocks where there was no snow, and here he ran into a crevice, retreating far back between the cracks of rocks, finally dropping to ease his pain-wrecked, bloody stump.

Mustel remained in the dark hiding place for nearly two weeks. There was no snow when again he ventured outside. His fur had changed to a dirty, reddish-brown color. He returned to Spook Ridge, where he spent several nights terrorizing the rodents, instilling the fear of the King into them again. Meanwhile, his boldness was returning.

Later on, a light snow fell. It was only an inch deep—a trapper would call it a "tracking snow." The first night after it fell Mustel again followed the human being's tracks, destroying two trapped animals. Then he roamed down the mountainside, headed for the farmhouse down in the valley. He halted at daylight, slipping into the hollow at the base of an old oak tree.

Bill pushed forward the rusty hinged gate, swore at everything in general, and dumped a few traps in the corner of the outside porch. Inside, his father greeted him. "Well, what happened last night on the line? This strange three-legged killer fool you again?"

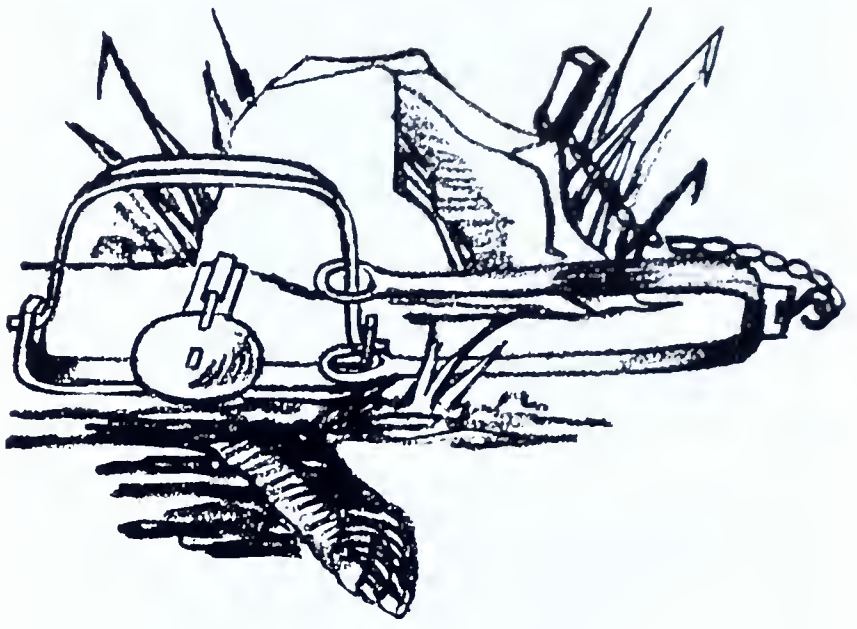
Bill swore violently, seemingly apropos of nothing.

"Well, what's getting over you?" demanded his father.

"That confounded little nuisance has raided my sets again. He's an old one—and plenty wise."

"Son, you've come out of those mountains with plenty of weasel. I remember four years ago—your first one—."

"Yes, I'm an old hand, you always say. But this one beats me. Imagine, a weasel—of all animals, a weasel—fooling me for the past four months that I know of—."



"I never heard of a wise weasel before. Usually, they're taken easily."

"This weasel fell for an uncovered trap once—and escaped. I believe that it's good fortune on his part rather than cunningness that he has escaped my traps. Tonight, I believe is his last."

His father snickered.

"I mean it. I caught an old 'possum up on the line fence. A real old one. They aren't worth much, either. So, I left him in the trap and surrounded him at safe distance so that he don't step into them, a bunch of No. 1's . . . my best!"

"You didn't kill the 'possum?"

The young man's face was serious. "No. It may be cruel, but that old 'possum will be doing a world of good to every living animal in these parts!"

The night was dark, forebodingly dark, it seemed. There was no light in the sky. It had drizzled during the day and rain water still dripped from the naked branches of trees. Now, the sky was a dull grey. Mustel crawled out from his hiding-place and sniffled suspiciously. He hopped down along the line fence, investigating every crevice. He paused occasionally and lifted his keen nose in hunt of blood. All about him was silent. Even the wind seemed asleep.

He was pausing now longer than usual. Suddenly, he raced forward. There came the clanking sound of a chain. Blood . . . triumph over an old enemy! For surely, it must be Didelphis, held by an iron dog. He raced on . . .

Something snapped and Mustel was thrown forward on his face. He rose. He struggled. Something else snapped. He began to fight furiously. Again there came a snap. He felt weak. He couldn't move. He fought weakly, slowly sinking to a depth from which he would never return.

A pitiful white face calmly watched the struggle. Didelphis lay on the trap that held him and waited, for what the dumb beast certainly could not know.

Dawn found the end to the drama. The King was dead. The sun rose, the day poured forth its glory, waned, and died. Primitive life moved on. Didelphis visited a near-by persimmon tree on countless nights thereafter. 'Possum hides weren't worth much, anyway.

Editor's Note: From the ranks of the Infantry comes this little drama of the wild. The author is with the Light Tank Corp., Fort Meade, Md.



SCREECHY

By N. R. CASILLO

I SHALL never forget that early March night when the capricious winds characteristic of the month were tearing through the trees about the house, causing them to moan and groan like so many anguished beings. Later on in the night the winds were reinforced by a driving, sleety snow and an extremely low temperature. The elements had combined until it seemed as if a thousand howling furies were unleashed. It was one of those times when you could justifiably pull the bed covers over your head and comfortably and uncomplainlngly smother. Above the tumult I suddenly discerned the shivery quaver of the shivering owl, as our little screech owl is so aptly called in the south. All night long it continued (at least I heard it whenever I came up for air), a mournful and spectral accompaniment to the lashing storm. No wonder its "song" is considered by many to be an omen of evil!

On the following morning the chill air was shattered by the excited chatter of English sparrows and by the less frequent alarm chirps of robins. From the vantage point of a bedroom window overlooking the garden, I saw four or five plump robins with feathers fluffed and shoulders hunched, perched on the cross bars of a rose arbor. About them bustled a dozen or so sparrows chattering for all they were worth. But the cause for their alarm was not located there, for in a moment they dashed to a nearby martin house and began circling it, all the while scolding like the most ardent shrews. Unconcernedly hunched on the topmost platform of the house was the object of their excitement and clamor. It was a diminutive screech owl whom I chose to call "Screechy" because of the incongruity of the name thrust upon him; no one has ever heard a screech owl screech. And I was certain that it was he who had serenaded me the night before.

Late that afternoon the little owl was still there, but was now severely ignored by the robins, and received only an impertinently-inquisitive cheep from the passing sparrows. I noticed though, that the latter took great care not to alight on the house.

Shortly after dusk I discovered that Screechy had departed, so I got out a ladder, carefully slanted it against the martin house and proceeded aloft for a detailed investigation. When my eyes reached the level of the third story platform, I ducked in alarm as a ball of feathers hurtled from the door and winged off into the darkness. My flashlight revealed four white eggs; evidence enough that the owls had taken possession, and likely I had disturbed the female.

Yes, the arrangement entirely pleased me. In the first place they would drive away the sparrows that had already deposited large piles of nest materials in the martin house, preparatory to spring housekeeping. More to my taste, however, they would exterminate the numerous field mice that had taken possession of my garage. Even the possible decapitation of a dozen or more sparrows would also meet with my heartiest approval. In this latter respect, my constant and careful observation failed to disclose the killing of even a single sparrow. The mice were plentiful so the birds were spared.

In a few nights I became more or less accustomed to the quavery tremolo that was Screechy's spooky love song. Indeed, it was an indication that all was well with the owl family, and in some mysterious manner caused a feeling of contentment to pervade me whenever I heard it. Frequently, one or two of the ghostly arias were sufficient to plunge me into peaceful slumber.

The idea of permitting owls on my premises, to say nothing of letting them nest in my martin house, caused more than one good neighbor to utter uncomplimentary remarks, until I convinced them that they were absolutely harmless to small birds when other prey was available. In this case, the numerous, neat, furry pellets and empty skulls on the ground below the martin house amply attested to their inroads on the mouse clan. I will add that when other foods are lacking, as they usually are in severe weather, even the screech owl will attack small birds. Fortunately, most of the victims are the English sparrows.

On a typically bleak afternoon, a few days before the termination of the eggs' incubation period, I was galvanized into action by the insistent and angry screams of a pair of blue jays. **Jay—jay—jay!** They scolded. When I reached a convenient window I saw one of the handsome birds dive into a clump of conifers, screaming in a most blood-curdling manner; the other perched on the top of a small hemlock was burning the raw air with a variety of expletives. Shortly, I saw the cause of all their excitement. Sleepily hugging the trunk of a dense spruce was Screechy himself, apparently oblivious to the bedlam about him. Suddenly, from the corner of my eye I saw a streak of blue shoot from the martin house. I quickly turned and perceived a third jay furtively and guiltily disappearing into a nearby thicket. All this unbecoming reticence caused me to be apprehensive, so I rushed out, hurriedly placed the ever-ready ladder and went aloft.

My fears were confirmed. The mother was absent and every single one of the four eggs had been frightfully cracked and pecked by that sneaky dandy. Then, fearing the return and wrath of the mother, he had left without eating even a single morsel of the grisly feast. The jay is a great tormentor of Screechy's clan.

That night I was certain that the dolefully mournful cry that shivered through the frosted air was not of love, but one of grief and mourning.

The STREAMLINED GUNNERS

by

KENNETH P. WONDER



AMONG the thousands of real sportsmen who secure hunting licenses each year there is a certain percentage of very unsportsmanlike individuals who, for the sake of politeness, are also called sportsmen.

The Road Gunner and the Pot Hunter come within this category—very mild names indeed for the fellows who sit in their cars, windows rolled down, rifles upright between their knees, intently scanning the mountains on either side of the road as they slowly cruise for mile upon mile through the deer country.

They are too unsportsmanlike, too lazy to get out of their cars and hunt, yet they must have a deer, fair means or foul, and will go to any lengths to obtain one.

My observations of Road Hunters have been made over a period of years along the Coudersport Pike, between Carter Camp and Oleona and around Pine Mountain in Potter County. They are authentic. The same conditions are found in certain sections near English Center. They are no doubt encountered wherever there are mountains and deer, providing the roads are good.

It is unfortunate, but it is a fact that from year to year the membership in this "brotherhood" is increasing. Furthermore, Road Hunters are quite talented in some respects. They have the ability to sight deer so far up on a mountain that to the average man they would appear only as moving brown spots. These boys can single out the bucks at that distance and all hands will promptly start pumping lead.

After their salutes, anywhere from ten to thirty empty cartridge cases can be found lying in the road. On a few occasions, 30'06 cases bearing the stamp of Frankford Arsenal have been found and they had not been reloaded. However, a man that hunts in this manner could hardly be expected to suffer any nervous disorder from such a small matter as shooting steel jackets. It is possible that he did take the time to do a little filing on the slugs and expose some lead, but it is very improbable.



Do these boys ever hit any deer? They do, and usually they are doe deer, killed and left lying in the woods, or sorely wounded. More than one deer has been left by them, to roam the woods with a leg uselessly dangling from its body, or a slug thru the belly, to die a lingering death.

They know that the does outnumber the bucks, by far, therefore the chance of hitting a doe, when deliberately shooting into a herd of deer, is very much greater. They know it but they don't care. To them, sighting deer, means piling out of the car and shooting. Kill something, kill anything, it doesn't matter whether the deer is legal or not—SHOOT, as long as there is anything in sight that faintly resembles a deer.

The following incidents are typical of this group and their method of hunting:

One morning, during the season of 1936, a car was creeping along the road near Trap Log Hollow. It came to a stop, several shots were fired, then the occupants held a short conference. After a few minutes one of them decided to go up on the mountain to see what damage had been done.

When he had reached his objective he was heard to call out, in an excited voice, "Come on up here, a couple of you fellows, it's all right, it's a buck." Fine sportsmen, to say the least. They hustled the buck down the mountain and into the car, not even stopping to "gut" him, then away they went. They may have had a guilty feeling, but not a guilty conscience. At any rate here was an instance, when purely by chance, a legal buck was killed. It would be very interesting to know what sort of thrilling tale of the chase was told by them to the folks at home. These fellows do not confine their activities to the hours of daylight either—not by any means.

One night about 10:00 P. M. two shots were heard on the highway a short distance above camp. Upon investigation two shells from a twelve bore gun were found, also the steaming stomach and part of the intestines of a deer. These boys were nervy enough to start to "gut" this deer right on the road, but for some reason or other, lost their nerve, threw the deer in the car and drove off, to complete their task elsewhere.

During the course of a week or an entire season spent in Potter County quite a few fellows will stop and come in to the camp. Especially if there is a buck cooling off out front. Real hunters, who pass the time of day, look at the buck and leave. Numerous other cars have stopped, but when whoever happened to be in camp stepped out, there was no cheery word of greeting, no friendly wave of the hand; just mild surprise, on their part, at anyone being around and no little haste in driving away. Road Hunters and would-be thieves, as well. My two brothers and myself prefer to still hunt, but we have learned that it is foolish to try it on the roadside of a mountain no matter how good the deer sign may be. However, it must be very disheartening to those who drive, to have a bunch of chiselers jump out of a car and empty their rifles in the general direction of the deer they are driving, long before the game is anywhere near the standers.

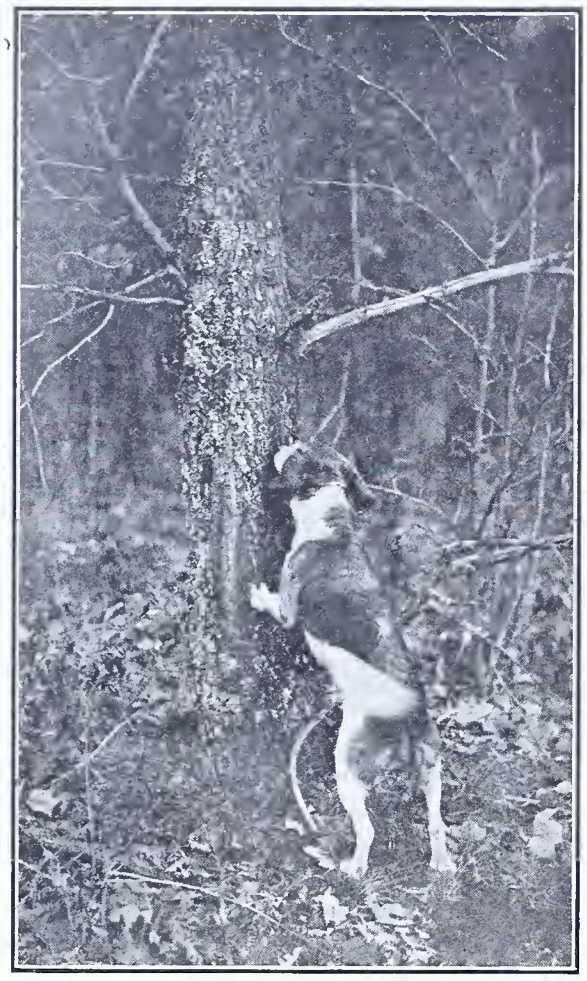
There is still another type of gunner that is a serious menace to human life as well as to game. This man goes into the woods and actually hunts, but he belongs to some sort of "fraternity" that has for its motto, "Knock Them Down, Then Look For Horns." He is very dangerous, because he will shoot at anything that moves and the damage he does is on a par with that done by the gang that rides the roads. A goodly number of the bucks that are taken out of the woods each year are killed by the members of this "fraternity."

They must be, because the deer would have to walk out in the open, at a distance no greater than twenty yards and be thoroughly examined with a pair of ten power binoculars before the points could be seen. In many instances the so called point is on a beam of no greater length than eight inches and is not much larger than the largest wart on a healthy cucumber. It would appear that these lads also are gifted with super-eyesight.

It is not to be denied that a hunting trip, that has netted no game, is not as pleasant as the one that was a success. But, the true sportsman has been amply repaid, in pleasure, for the time he has spent in hunting,

(Continued on page 28)

NIMBLE SQUIRREL TEST FOR ANY HUNTER



As a result of action by the last legislature fox squirrels are now protected game animals, but red and ground squirrels were not included in the action and are not denied to the hunter. . . .

By RUSSELL J. MARTIN
Assistant Regional Supervisor

***EDITOR'S NOTE:** In addition to it being decidedly interesting, there is much "meat for thought" to Pennsylvania sportsmen in Russell J. Martin's article re-printed from the January issue of the Michigan Conservation, the official organ of the Michigan Department of Conservation. The suggestion that squirrels, and likewise wild turkeys, be hunted only with a rifle not larger than a .32 caliber, has been advanced for years by many advocates of real sport in Pennsylvania. There is merit in the suggestion not to be lightly brushed aside but deserving serious consideration by sportsmen of this State. Insofar as turkeys are concerned, the suggestion is especially applicable if for no other reason than to conserve human life since "calling" has again been made legal in this State.*



A SPORT that was popular with the pioneer who carried a long-barreled Kentucky rifle rapidly is finding a spot in the hearts of Michigan hunters. That sport is squirrel hunting, either with a dog or "still" hunting, and no matter which method one uses the advantage is all with the squirrel.

Over a period of many years Michigan squirrels were confined to farm wood lots in the lower half of the southern peninsula. Indiscriminate cutting of forests in the north had destroyed the squirrel's chance of living in that area. Food and shelter were gone and he was forced to wait until a new crop of timber grew up to supply him with these necessities of life.

Distribution Is Widening

Today, 40 to 60 years after the virgin timber was cut, most of the northwestern and large parts of the central and eastern sections of the lower peninsula are covered with trees that give protection to the squirrel. True, the timber is not the beech and maple he lived in formerly but he apparently finds the oak very much to his liking for he is multiplying rapidly.

The acorns furnish food for winter and the oak leaves that do not fall until spring give him protection from predators and from man.

Perhaps the man who hunts grouse or pheasant over a good dog, or the duck or rabbit hunter, will turn up his nose at the idea of hunting squirrel, but after he has pitted his wits against this clever little chap he will soon change his mind.

One class of hunter the sport appeals to particularly is the man who likes to use a rifle. Not only does one find the 22-caliber fan in the woods after squirrel but there also are plenty of men who are using their deer rifles with greatly reduced loads.

Marksman's Challenge

If legislation or the force of public opinion bans the shotgun as a squirrel weapon, and the sport continues to increase in popularity as it now promises to do, this again may become a nation of riflemen.

The man who uses a shotgun to shoot squirrel should be classed with the chap who shoots into a covey of quail on the ground or who shoots into a herd of deer with buckshot, trusting to luck that he will kill a buck.

If one does not care to follow a dog or if he enjoys the solitude of the vast, oak-covered hills of western Michigan during the most beautiful season of the year, he will, perhaps, prefer still hunting.

As one walks into the woods on a crisp October morning and seats himself on a log or stump to wait for the noise of acorns that are being dropped from the trees or the rustle of leaves as the squirrel hurries from one tree to another, he has a feeling that the realities of life and the turmoil of the thing called civilization are far away, indeed. The only noise one hears is the far-off whistle of a locomotive or the sound of some distant hunter's gun, the cry of a bluejay or the thumping of a red-headed woodpecker as he pounds home his winter supply of acorns in some dead stub.

The brilliant colors of autumn have not yet turned to the drab brown of winter and one marvels at the flaming scarlet and the soft gold that contrast with the dark green of an occasional pine.

Acorns Are Giveaway

As one sits motionless, he is suddenly conscious that acorns are falling regularly from one tree. The hunter moves quietly in that direction and in a few minutes is standing directly under the spot from which the acorns are falling, but try as he may he cannot see the squirrel.

However, the movement of leaves in the tree top advertises the squirrel's location. The hunter may wait for several minutes to no avail, then back carefully away from the tree to throw a small crunk of wood into the top. This brings the squirrel out of his hiding place in a hurry to climb into the topmost branch and to cling there swaying back and forth in the light breeze. A careful aim and the morning calm is broken by the spiteful crack of the 22 as the hunter bags his first squirrel of the day.

Moving to a new location through the oaks with no ground growth to impede walking, one cannot help comparing this type of hunting with pheasant hunting when one encounters every type of noxious weed native to Michigan and is forced to stop at frequent intervals to pull sand burrs, "sticktites" and burdock from his clothing.

Squirrel Sometimes Bold

As one sits down in his new location with his rifle across his lap and scans the tree tops for some sign of squirrel, he may hear a rustle on the ground and, looking down, see a squirrel watching him intently from a distance of less than 15 yards. Where he came from is a mystery but the hunter knows that at his first move, no matter how carefully accomplished, the keen-eyed little fellow will vanish in a swirl of leaves around the nearest tree trunk.

Sure enough, as one starts to bring the rifle up, the squirrel makes for a nearby tree and all that can be seen is the tip of his tail

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Naturalists in the Making.

OBSERVATIONS!

ON March 13 it was the Editor's great pleasure to have made a trip by motor launch over the Susquehanna Flats at the invitation of Dr. Herbert H. Beck, Professor of Chemistry and well-known ornithologist of Franklin and Marshall College, Lancaster.

Members of the expedition included over twenty of the Doctor's bird students; James N. Morton, Assistant Director of the Bureau of Refuges and Lands and Gordon Krieble, Staff Photographer, both of the Game Commission; and last, the expedition's most honored guest, Honorable George W. Hensel, Hibernating Governor of the Slumbering Groundhog Lodge at Quarryville.

The purpose of the trip was to take a census of the swans and other waterfowl on the Flats, and the party was well rewarded by observing and getting unusually close to about 3000 whistling swans. What a glorious sight it was as they rose from the water! Considerable numbers of canvasback ducks, and quite a few baldpates, bluebills, golden eyes, pintails, black ducks and several mergansers, coots and grebes were also seen.

The party embarked from Perryville after lying idle on the Flats for half an hour with motor trouble. A complete circuit of the Flats, about 35 miles, was made and observations carefully noted. A nest of the bald eagle, the national emblem and one of the few left, was seen on Spesutia Island, where the Susquehanna Flats join the Chesapeake. "Commodore" Hensel, as the expedition unanimously titled the groundhog chieftain, was the life of the party from beginning to end, and fortunate indeed is the person whose lot places him in the company of such a humorous philosopher for a whole day.

Although the weather was not much to brag about, the sun did shine a little at times, though only a little. This made photography and observation through glasses rather difficult, but some pictures of value were taken.

At the culmination of the water voyage, the entire party proceeded to the Bohemia River, Maryland, to observe the thousands of Canada geese that congregated on a sanctuary in that section. The birds are attracted by live decoys to certain farms owned by Mr. R. R. M. Carpenter, wealthy Wilmington sportsman, who takes a delight in providing a natural feeding place for the geese enroute on their northern flight. Clarence Webb, manager of Mr. Carpenter's farms and sanctuaries, said that he occasionally sees a few Blue geese and Snow geese with the Canada's. We estimated some groups to number anywhere from three to five thousand, many of which were sitting in large flocks in the open fields.

The reader will get an idea of the tremendous numbers from the photograph depicted above. The reader will also be interested in knowing that this expedition, which Dr. Beck calls the swan trip, has been made annually by him and some of his associates for the past eighteen years. Naturally being curious I asked him concerning some of his previous observations, particularly concerning either the abundance or the scarcity of the swans, and was surprised to learn that in all that time he noticed very little change in their numbers one way or the other. In his opinion, they seem just to be holding their own, even though they are legally on the protected list at all times. Other observers insist that the Whistling Swans are increasing.

THE LAST RAFT

WITHIN the next two or three months the Editor will have prepared an article covering his experiences on the "last raft" trip which ended so disastrously for a number of greatly beloved individuals. For the present suffice it to say that it was a most exciting voyage from beginning to end, and that the motion pictures taken should prove intensely interesting. Unfortunately some of the shots I made were lost in the crash. Others were salvaged, placed on the bank after the raft was snubbed, and apparently picked up by souvenir hunters. Whether or not any of them will be recovered remains to be seen.

One thing about the whole trip which impressed me so forcibly was the great number of sportsmen interested in the adventure. Quite a few of them even went so far as to make short trips on the raft. Probably the most surprised of anybody were the Tonkin brothers, sponsors of the trip, and their crew, old-time raftsmen. Not one of them had any idea of the tremendous enthusiasm which the venture caused until they were first greeted by the first large group of people after the raft left Bellnap. From there on, all the way to Clearfield, thousands lined the banks of the river and automobile traffic was at a halt for miles. One of the first things Dudley Tonkin, sponsor, and Levi Connor, builder of the raft said when they reached Clearfield was, "If we'd had any idea this thing would have started so much fuss, we'd possibly not have built it."

CURRENT TOPICS

SPORTSMEN START PROGRAM TO BOOST WILD DUCK CROPS

Representative sportsmen from all parts of the country completed organization of "Ducks Unlimited, Inc." recently at Chicago and announced launching of a five-year program to increase wild ducks.

Over $250,000 already has been subscribed by American duck hunters to finance the program which is to be carried out in Alberta, Saskatchewan and Manitoba. These provinces contain the last remaining most important duck breeding grounds on the continent, a preliminary survey has revealed.

Louis H. Egan, of St. Louis, President of the Union Electric Light and Power Corporation was elected President of "Ducks Unlimited." Chosen as Vice-presidents were: John B. Coleman, San Francisco; former United States Senator Lawrence C. Phipps, Denver; Ferris F. Hamilton, Springfield, Ill.; Charles Michel, St. Louis, and John C. Huntington, New York City.

E. Herrick Low, Vice-president Corn Exchange Bank Trust Co., New York, was elected Secretary and Frederick H. Ecker, Chairman of the Board, Metropolitan Life Insurance Co., Treasurer.

Among prominent business and professional men elected to committees were: Executive Committee: Stuart Logan and William R. O'Donnell, Chicago; George B. Luhman, Milwaukee; Percy J. Orthwein, St. Louis, and Lloyd C. Stevens, San Francisco.

Finance Committee: Philip C. Barney, Hartford, Conn.; George W. Fink, Crow's Landing, Calif.; Dr. James C. Clark, Sioux Falls, South Dakota, and Fred S. Barlow, Spirit Lake, Iowa. Legal Committee: Samuel Hoar, Boston; John C. Huntington, James E. Kelley, St. Paul; State Supreme Court Justice E. L. McHaney, Little Rock, Ark., and Gurney Newlin, Los Angeles.

Butler Greer, San Francisco; Harold W. Story, Milwaukee; Louis H. Barkhausen, Chicago, and Arthur M. Bartley, New York, were chosen as American Directors of "Ducks Unlimited (Canada)" a subsidiary which will direct field work. Four prominent Canadian sportsmen and businessmen also will serve on this board.

Field work will be launched in Canada, under direction of a competent Canadian manager just as soon as he can be selected by the Directors of Ducks Unlimited (Canada) the operating subsidiary. These Directors, in addition to those listed in the last paragraph of the enclosed release, include, O. Leigh Spencer, Calgary, Alberta, Hon. W. G. Ross, Moose Jaw, Sask., James A. Richardson, Winnipeg, Manitoba and S. S. Holden of Ottawa.

Despite the fact the new game code lowered the penalty for many violations, and new features were not rigidly enforced, there has been a marked increase in the fines collected during the year 1937-1938.

From June 1, 1936 to March 1, 1937, $49,107.25 was collected. For a like period ending March 1, 1938, the total fines collected amounted to $58,044.70, notwithstanding the Commission's policy to enforce the spirit rather than the strict letter of the law.

The increase is attributed to much better cooperation between the sportsmen and Game Protectors, and increased activity on the part of the latter in bringing the real law breakers to justice.

Rabbit Farms Aid Pneumonia Fight

Ashtabula County, Ohio, rabbit growers are having an important part in the movement to combat pneumonia throughout the country. Serum for the treatment of pneumonia developed from rabbits grown in this county saves the lives of hundreds of patients in all part of the United States.

Extensive use of rabbit serum in the treatment of pneumonia, creating as it does additional market for rabbits, has brought profit to breeders in this county.

One of the largest breeders of rabbits in the county is George H. Loose, a retired railroad engineer.

Alex B. Sweigart, Editor of the Pennsylvania Angler, is very much interested in securing good fishing yarns, and if any readers of the GAME NEWS, even though they are primarily hunters, know of any items that will fit into the columns of the Angler, by all means let Mr. Sweigart know about them. He likewise is canvassing his readers in an effort to increase the contributions to the GAME NEWS.

The first hunting accident of 1938 occurred February 23, when Rodger Shartzer, 23, of Somerfield, Somerset County, slipped while hunting foxes. The hammer of his shot gun struck a rock and discharged the weapon, the charge entering the body just below the heart.

During two rabbit drives on March 12 and 13 near Fort Washington, Montgomery County, Ambrose Gerhart, several deputies, and a number of sportsmen caught 96 cottontails the first day and 55 the second. Previously they took 55 rabbits on the same property (Pheasant Run Game Farm), on March 5 and 6.

"Feeding of waterfowl has been carried on in all areas most attractive to them. Corn raised at the Refuge and shelled at local mills was used as bait. On March 12, $200.00 was made available for feeding by the Pymatuning Conservation Association. I also received a card saying that $600.00 more would be made available if it could be used."

"One great horned owl nest was located at Tract No. 101. It held two young birds. This is the earliest I have ever noticed young owls. They must be eight to ten days old. Large numbers of all the early ducks have returned."—Refuge Keeper, Burt L. Oudette, Crawford County.

FARM ANIMALS INJURE, WILDLIFE SAVES, SOIL

One great difference between domestic and wild birds and animals is the effect they have on the land, particularly on soil erosion. It is common for farmers to pasture fields already injured by erosion—gullied land too rough for machine tillage or patches where running water has taken most of the topsoil.

On such land, pasturage is likely to be scanty. If cattle, sheep, or hogs are turned in they usually devour or trample such vegetation as may be left, says Dr. Ira N. Gabrielson of the Bureau of Biological Survey. This increases the erosion damage.

Wildlife, in contrast, lives in and with the natural vegetation that develops in these rough areas not suitable for cropping. Rarely do creatures of the wild contribute to erosion. Rather, they allow vegetation to develop and hold the soil. Farmers can help, too, says Doctor Gabrielson, by seeding or planting quick-growing plants and trees that are soil binders and also provide cover and food for game. Catering slightly to the feeding, wintering, and nesting habits of the game will attract birds and animals and increase the game crop which sportsmen will be glad to harvest—and pay for the privilege.

Domestic animals are likely to further destroy land that has been injured by cultivation. The same land devoted to wildlife will be preserved and even improved. This contrast often points out the difference between good management and poor management of the rougher and less fertile parts of a farm.

Over 5,000 native rabbits have been removed from the grounds of State institutions, schools, private property, etc., and restocked on open hunting territory since January first.

As these grounds have been closed to all hunting, they had become so well populated with rabbits that considerable damage was being done to the decorative plantings around the buildings and nearby gardens.

To control this the Game Protectors, assisted by local sportsmen, drove the rabbits into nets, or baited them into traps. They were then released in the same County, in good food and cover, on public hunting grounds.

Charles Kreitzer, West Fairview, one of two hunters who allegedly beat up a farmer who refused permission to hunt on his land, was named defendant in a damage suit for $11,067.

From June 3, 1937, to date the Commission issued 23 organized Fox Hunting Club Permits for which it collected $1150.00 in fees. Heretofore no permits were required and no fees paid by such hunters.

A deer was killed by a car at Little Washington, Cumberland County.

CURRENT TOPICS

NOTES FROM THE FIELD

"A male fawn was found by Mr. Spangler, State Forest Ranger, near the Straight Creek road on February 23. It was in a weakened condition and easily caught by him and Mr. Marsh, custodian of the CCC camp there. They placed the little fellow in one of the empty buildings there and reported to me. It was too weak to stand and seemed not to care for apples and tender brouse placed before it. It would take warm milk and oatmeal from a bottle but grew steadily weaker despite care and feeding, and died Friday night.

"Before disposing of the carcass we opened it to learn what we could of condition and contents of stomach and intestines. We found undigested milk and oatmeal in the stomach. The pauch held a variety of material, mostly hemlock. The quantity was considerable. Further examination revealed that pneumonia had been the cause of death. Both lungs were congested, the right one being completely closed. It is my belief that lack of sufficient food material of the right kind had so reduced the vitality of this youngster that he could not stand the exposure to storm and cold."—Refuge Keeper L. B. Rosenkrans, Elk County.

"During past few weeks NYA crew and I released 67 butternut, 13 hawthorn, 120 cherry, 37 cucumber, 25 grape vines, 46 clumps sumac, 67 Juneberry, 46 poplar, 3 basswood, 38 hickory, 46 apple, 29 witch-hazel, 16 greenbriar, and pruned 51 apple. Food plot cutting three acres, Game Land No. 26.

"During past few weeks WPA Project on Game Land No. 79 released 314 apple, 1560 hawthorn, 1266 grape vines, 105 hickory, 100 butternut, 400 sumac, 25 Juneberry and 50 dogwood. Pruned 301 apple. Food plot cutting 114 acres."—Refuge Keeper Bruce Catherman, Cambria County.

Splendid assistance is being received by practically all of our Game Refuge Keepers throughout the State from the NYA and WPA. The majority of the Refuge Keepers have crews working with them and a great deal of constructive work has been accomplished, work which would not be possible for the Game Commission to carry on due to insufficient funds.

"The N. Y. A. boys built three large Game Feeders in Refuge 97-A, that are 12′ x 12′ and about 30″ high. I then hauled some wheat and oat sheaves from the Van Horn farm, and covered the feeders. Squirrels, quail, grouse, deer, and numerous song birds feed there regularly.

"I hauled some sheaves into Refuge 97-D and put them in forks of trees about two feet above the ground. Turkeys, deer, grouse, and squirrels feed on them regularly."—Refuge Keeper Albert Bachman, Bedford County.

"I have observed deer mating on February 9 and 12. The black-capped chickadee, when fed split peanuts, will store them in the boughs of a tree and the red squirrel is right on the job to get them."—Refuge Keeper W. F. Mason, Clinton County.

"On March 1, I saw a buck in Refuge 51-A that still had its antlers, six points. I had a report of two being seen about a week ago with antlers.

"The limbs that were left under the apple trees from pruning have been eaten by deer to a thickness of about ¼ inch.

"During the last snow I tracked two deer in 51-A that were traveling from apple tree to apple tree in search of the tender twigs on the pruned limbs. There were no small limbs left.

"I found that deer were eating the ends of the maple that were cut about a week ago. They were not eating sassafras that was cut at the same time."—Refuge Keeper George Sprankle, Fayette County.

"While in Tunkhannock Township with Mr. Logue on February 22 we found where a cottontail rabbit had cut 38 leaves from a small laurel bush and eaten the stems from all of them.

"Saw two male deer with antlers on February 17 in South Brook Section of Game Lands No. 57."—Refuge Keeper M. B. Wells, Wyoming Co.

"While working on State Game Lands No. 99 on March 3, some of the Project workers found a wild turkey hanging in a tree. Its head was caught fast in a crotch."—Refuge Keeper David R. Titus, Huntingdon County.

"Sometime ago I pruned some trees at S. G. R. No. 517. I made a brush pile of considerable size near the chicken house. A pair of grey rabbits has taken possession of the brush pile. I had placed some apple limbs in the bottom of the pile and at this time the rabbits have the apple limbs nearly all peeled."—Refuge Keeper Claude Kelsey, Potter County.

Refuge Keeper Ross Metz of Huntingdon County gives the following interesting observations on liberated wild turkeys:

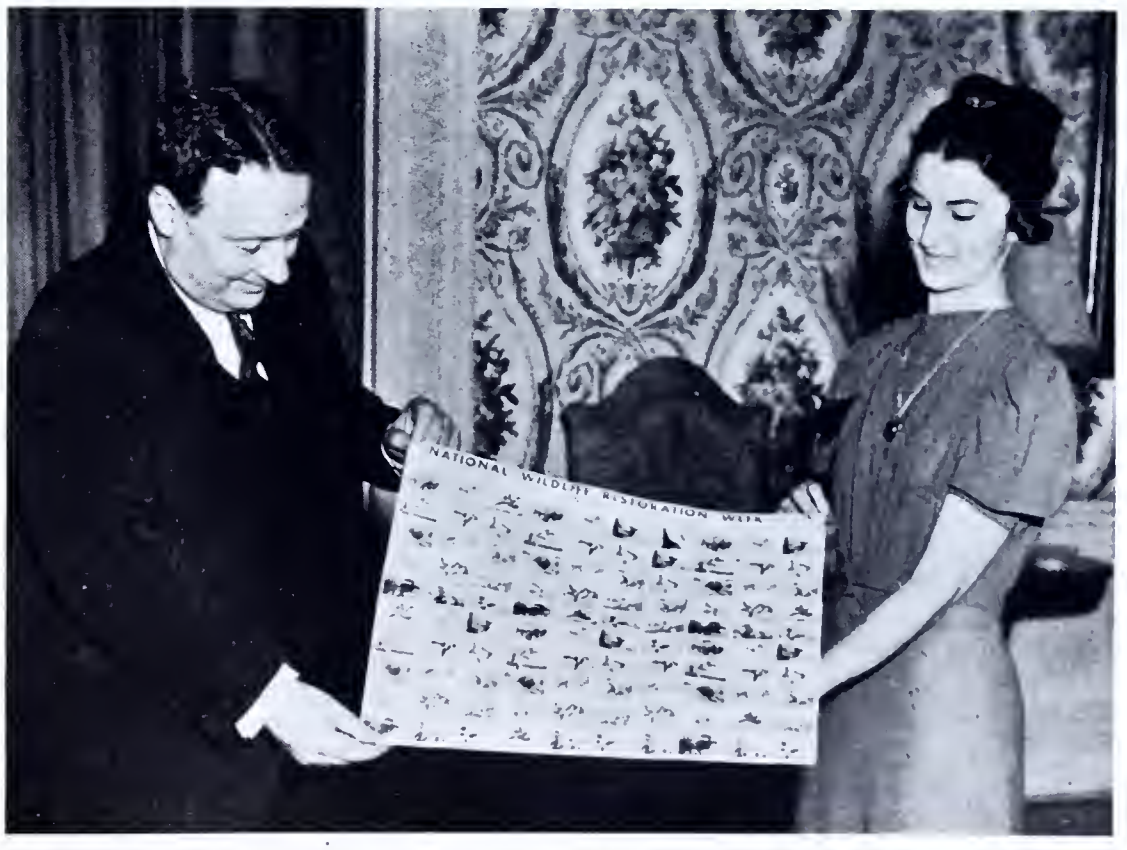
"Turkeys from the turkey farm when first liberated will range over a small area in comparison to the normal range of native turkeys. Of course, this is entirely dependent on whether the birds are liberated properly. After they have become acquainted with the section in which they are released, that section will readily be adopted as home, provided it has been a natural turkey range. Once the turkeys have adopted a certain section their range will gradually increase.

"The turkeys liberated at Turkey Enclosure No. 3 in Refuge No. 532 have, in ten weeks, increased their range from a comparatively small area to one that native turkeys normally roam over. When first liberated I found them near Enclosure No. 3 any time that I happened to go there. Now they are seldom there except to come for feed, and usually they come at regular intervals. They normally cross the roads and range in the same areas and directions as native stock.

"No doubt weather and general feed conditions play an important part in regulating their activities. The point I wish to bring out is the fact that it has taken the turkeys ten weeks to increase their range from the size of that which they used on the turkey farm to a normal range under conditions in the Diamond Valley section."

A doe deer, frightened by an ore train, plunged into an open ore pit at the Cornwall mines in Lebanon County on February 25. The first leap of eighty feet to a ledge was made with apparent safety, but the sixty foot drop to the floor caused injuries which resulted in death.

(Please turn page)



Governor George H. Earle, himself an enthusiastic sportsman and conservationist, is shown buying a sheet of Wildlife Stamps at the Executive Mansion in Harrisburg from Miss Esther Gill of the Pennsylvania Game Commission.

CURRENT TOPICS



Thinking that my recent notes from COUNTRY LIFE and THE SPORTSMAN might be of interest to the readers of the Pennsylvania Game News on account of this being the time of year when hookworm starts, I give the following notes: "No one owning hounds, or for that matter any kind of dog, should need to have the dangers and destruction of hookworm impressed on them. The most positive method in the past for hookworm control, plus of course usual sanitation, has been the use of either a blowtorch or live steam. The former one of the big kind that throws a flame about three feet wide with a temperature of 2000° F. Live steam is often impractical on account of not being able to reach great distances, and also because it is only practical on certain types of hard drained surfaces. Several years ago we mentioned in this department that Mort Fuller, Joint M. F. H. of the Ovington Hills Hunt had very kindly asked Dr. Looker, Director of Research of his International Salt Company, to cooperate with us on some experiments with salt to eliminate hookworm. At that time our results appeared good but they were not conducted with scientific control, and I had already invested in two large blowtorches worthy of the German flame throwers, and incidentally excellent for reducing as they will make the sweat roll off even in midwinter.

It was, therefore, particularly interesting to receive a letter from Dr. Looker recently in which he gives a report on the findings of Dr. Underwood, of the Bureau of Animal Industry, which comprises the latest on this microscopic devil who is so tough that he basks in hydrochloric acid as you would in a warm tub. This report is especially timely as with the thawing ground of gentle spring the hookworm like most of the big family, gets into action again. "Sodium chloride has been used with variable success in attempts to control soil infection with larvae of the human hookworms in various parts of the world. In many of these experiments, sea water was the source of the sodium chloride. In others, particularly in the mines, salt water encountered in the process of mining was the principal source. Some of these experiments showed that sodium chloride was an effective larvicide, some indicated that it might be useful, and others that it was of negligible value in the control of these parasites. Very little is to be found in the field of veterinary literature on the use of sodium chloride as a hookworm larvicide. However, Law (1932) found that foxes raised in pens which had been sprayed with brine showed a remarkable freedom from hookworms when killed and pelted several months later. Since the information on this point was meager and rather inconclusive, the experiments here reported were performed in order to get some definite information on the lethal effect of a saturated solution of sodium chloride on the larvae of the dog hookworm, Ancylostoma caninum, when applied to the soil of infected dog pens.

It was first necessary to obtain dogs free from hookworm infestation. Eight dogs were selected, ranging in age from 8 months to 1 year and representing mixed breeds. These ages were considered well within the limits of the dog's age susceptibility to hookworm infestation. Prior to the experiment, the animals were kept in a quarantine pen, a space enclosed by a 5-foot wire fence, and having a smooth concrete floor. This floor was cleaned daily by first collecting visible fecal matter in a container, and then by going over the floor thoroughly with steam applied under pressure with a steam hose. Feeding and watering utensils were sterilized in like manner. This method of sanitation was maintained for two months. Only 1 of the 8 animals showed hookworm ova in the feces at the preliminary examination made shortly before they were placed in the quarantine pen. Feces were collected from the rectum of each dog once a week and examined for hookworm ova by the Lane D. F. C. and the ordinary salt flotation methods. Each week, regardless of whether or not hookworm ova were found in the feces, each dog was fasted 18 hours and treated with n-butyl bromide given in hard gelatin capsules at the rate of 0.3 c.c. per kilogram (2.2 pounds) of body weight. At the end of the first month of quarantine, the dogs had each received 3 treatments with n-butyl bromide, and all remained negative or, in the case of 1 dog, had become negative for hookworm ova. They were held in quarantine an additional month, at the end of which time they were still negative for hookworm ova, but were given a fourth treatment of n-butyl bromide to free them of any non-egg-bearing hookworms that might be present.

The Experimental Pens—Two outdoor pens exposed to sunlight were set up. One, a treated pen, was to test the efficiency of the salt solution, while the other, an untreated pen, was to serve as a control for the survival of the hookworm larvae. A pen originally 28 feet long and 12 feet wide, which had been occupied by dogs with hookworm and other helminth infestations for nearly 3 years previous to the present experiment, was divided lengthwise by a 5-foot wire fence. This formed 2 pens each having an area of 168 square feet. A continuous strip of sheet metal was placed along the bottom of the wire partition. The bottom of this strip was sunk 6 inches in the ground in concrete, and the top extended 18 inches up from the ground surface to prevent any major contamination of the adjoining pen with fecal material. The soil in each pen was of the same type and consisted chiefly of sand and clay.

The larvae used to infect the pens were obtained from hookworm eggs passed by infected dogs. These eggs were cultured in charcoal, and the larvae were recovered with the aid of the Baerman apparatus, and counted by a simple dilution method in water. An ordinary garden sprinkler can into which had been poured warm water (37.5° C.) containing hookworm larvae was used to distribute the larvae over the surface of the soil of both pens. The water was kept constantly agitated during the process of pouring. The pens were spread with larvae 4 times, once every other day. A total of approximately 250,000 larvae were placed on each pen in the 4 treatments, which allowed an average of about 7.3 larvae per square inch of soil surface. On the alternate days between applications of larvae, soil samples were collected from the pens and placed in the Baerman apparatus to determine the presence or absence of hookworm larvae. The first soil samples were negative for hookworm larvae, but small numbers of live larvae were isolated from those taken later.

Immediately after the last application of larvae, the sodium chloride solution was prepared. Twenty-five gallons of boiling hot water were poured into a clean galvanized can, and medium fine sodium chloride was added with constant stirring, at the rate of 1½ pounds to the gallon of water. This concentration of sodium chloride was found to kill hookworm larvae in 30 to 90 seconds in a watch glass in the laboratory. All the salt dissolved in the water except for a small amount which formed over the bottom of the can about a quarter of an inch deep when the solution cooled. When cold, the solution was spread over the surface of one of the pens by means of the garden sprinkler can which had been used to distribute the larvae. Eighteen gallons of the solution was used and this saturated the soil to a depth of ½ to 1½ inches. This allowed an average of 0.107 gallons (approximately 1 pint) of the solution for each square foot of soil surface in the pen. Eighteen hours later, soil samples were taken from each of the 2 pens and examined for hookworm larvae. Live hookworm larvae were found in small numbers in the untreated pen, but none were recovered from the treated pen.

On August 30, 1934, four dogs were placed in each pen. Of the 4 dogs placed in the treated pen, one was the animal which had hookworm ova in its feces at an early preliminary examination but which had become negative after anthelmintic treatment. It is presumed that this dog was susceptible to hookworm infestation. None of the dogs placed in the untreated pen had ever shown hookworm ova in the feces at any of the fecal examinations. No changes were made in the diet or general care of these animals while they were in the experimental pens except that the fecal matter was not removed from the pens during the entire experiment. At the end of the fourth and fifth weekly fecal examinations after the dogs were placed in the experimental pens is was found that 3 of the animals in the untreated pen were passing hookworm ova in their feces. The dogs in the treated pen remained negative. The experiment was concluded at the end of the fifth week as the value of sodium chloride solution seemed to have been definitely established as a hookworm larvicide, and any increase in the length of the experiment invited the pos

(Continued on Page 32)























Top Left—Doe with Fawn, Found Dead by Wm. Hepperle of Enola, Pa.; Right—A 4-point, a 6-point and a 350 lb. Bear Killed by the Hayes Outdoor Club while hunting in Cameron County, season of 1935; Second row—Left to Right—A Day's Work for the Stark Brothers of Eldred, Pa.; 10-point, three-fourth Albino Buck Shot by Robert Cooper of York while hunting in Potter Co.; A 4-point for Eugene Diehl, of Erie, a fourteen-year-old boy on his first hunting trip. Incidently it was the first deer he saw; Harvey Wunderlick of Monongahela, Pa., with a 3-point killed during the 1937 season. Third row—Left to Right—A 6-point by Anthony Plasic of Steelton, while hunting at Stoney Creek, Dauphin County; A Member of the Benton Hunting Camp displays a fine rack of horns. The deer was killed in Wyoming Co.; John Ludwig of Stony Creek Mills displays a 6-point which he killed in Center County. Note the way he uses the back cover of the GAME NEWS; Chas. B. Weidman of Manheim displays a fine 6-point from Pike County; Bottom left—Both front legs broken by falling on the ice, this deer was found on the Black Moshannon Creek, by J. F. Kelly of Moshannon.

WITH THE CLUBS



The Berks County Coon Hunter's Association recently liberated fifty-three raccoons in various parts of the county for stocking purposes. These animals were purchased by the club for $435.46, said money being raised by holding field trials, outings, and several other social affairs.

This year the raccoons were marked with small aluminum ear tags to check their movement.

TRAPPED NINE DAYS DOG IS RESCUED

Mike, a pedigreed hound is lucky dog number one after he was released from a fox trap at top of Shreiners Mountain in Centre County. While hunting with his master, Ira E. Mellinger, ex-official of the Lancaster County Fish and Game Protective Association and several friends, Mike hit the long trail of a fox, but did not return to camp. A searching party failed to find him after a weeks hunt and he was given up for lost. Advertisement was placed of the lost dog in the Millheim Journal, through which a Trapper from Woodward discovered Mike in one of his fox traps. Willis S. Bierly, of Rebersburg, cooperated with the hunting party and the lost animal was returned to camp.

A most interesting report from the Leechburg Sportsmen's Ass'n in which they tell of feeding over 3000 lb. of grain last winter. Their feeding stations extend in a circle covering approximately 15 miles and are patronized by grouse, quail, squirrels, rabbits and ringnecks. They list as their activities for the spring, planting 9000 pine trees and establishing a 1000 acre Farm Game Refuge Project.

Robert M. Farwell was accorded the title of champion fox trapper by the Clinton County Fish and Game Association. Bob (as he is better known) trapped 146 foxes during the period from September 1 to November 1. He also caught one wildcat and 15 of the domestic variety gone native.

Plans for a most ambitious and expansive program for the improvement of hunting and fishing ever undertaken in Erie County were made at a meeting of the Erie County Sportsman's League meeting at Pulakos-on-the-lake. More than 1,000 members were present.

The Lancaster County Fish and Game Association, veteran sportsmen's organization, will celebrate its 17th birthday this year. The club was formed in 1921 and was originally known as the Lancaster County Fish and Game Protective association. In 1936, the name was changed, and last year the club was incorporated.

Last month the club purchased and released 144 rabbits. The association has been actively engaged in providing shelters for game and is now planning to join in planting several tracts to provide food and cover for wildlife, and to distribute pheasant eggs among farmers received from the Game Commission.

A novel form of entertainment was devised by J. H. Norris of the Lancaster County Sportsmen's Ass'n. While listening to the various quizzes over the radio he decided on a sportsmen's quizz to be presented at the next meeting. Offering a first and second prize for the correct answers the quizz got under way. Each contestant took his question from the box and if the answer was incorrect the proverbial gong was sounded. The members of the club thought so much of the idea it has been incorporated as a regular entertainment.

The Schuylkill County Coon Hunters Association will hold its Spring Field Trials on May 29 at the William Kemmerling Farm near Summit Station, Route 83. The entry fee is $3.00, the first tree prize is $75.00 and the first line prize $50.00. Elimination heats start at 8:00 a. m. For further information write Clyde R. Bubeck, Schuylkill Haven.

Editor's note: The above association has stocked 21 raccoons in different sections of Schuylkill County since they first organized eight months ago.

The members of the Red Lion Fish & Game Association of Red Lion held their first live bird shoot recently. It was a huge success, shooters from Reading, York, Harrisburg, and other nearby cities attending. This event will be an annual one from now on.

A unique membership card from the High Point Wildlife League of Salisbury shows the cabin and fire tower which is on one of the highest points in Pennsylvania. This club organized in 1937 and has over 1/7 of the entire population of the town of Salisbury for members.

Pinky Robinson, well known wildlife imitator, back from a year's tour of the United States with one of Major Bowes groups, would like to hear from clubs or organizations interested in having a program. For details contact Milford L. Robinson, RFD No. 2, Ransomville, N. Y.

The Punxsutawney Sportsmen's Club is sponsoring a WPA stream improvement project on the Little Sandy Lick Creek.

A LETTER FROM A READER

Dear Editor:

Page 23, Column 1, March number of "Game News" says "Lost—a 13 inch female beagle; black, white and tan markings."

It always amuses me when I read an advertisement like that. Of course it is the best description that can be given under the circumstances, but it will fit nearly every 13 inch beagle female in the land.

I have lost and so advertised more than one good beagle, stolen just before or during the open season, but I never had one returned. After that I tattooed them in the bare part of the inner ear and let it be known that they were so marked. Strangely enough I never had one stolen after that. They were marked P4 or P6—the first letter being the initial of my surname and the figure the year of birth of the dog.

If the advertisement had read also: "Marked RPF in the inner right ear," every kid in York County would have been after that reward with some assurance of success.

It makes a better identification record also in licensing or registering a dog.

I believe some of the cattle and sheep registration associations require that all animals registered with them shall be so marked with the registration number. There are purchaseable on the market tools for this purpose although it is not difficult to make a home-made substitute of a hard wood block, a few small, sharp, beheaded steel brads, a suitable drill and a little ingenuity.

The letters should be about half an inch high—the steel points forming them ⅛" apart and projecting ⅛" from the block.

The bare inner ear should be washed with some disinfectant solution and the block also sterilized.

When a home-made die is used the ear should be laid on a firm flat surface with die in position—one not too heavy—but yet sure and firm, a hammer blow, and some india ink massaged gently, but thoroughly, into the wound, makes a permanent life marking that should mean a life companionship for the dog with someone he loves, which surely more than offsets any short, sharp twinge of pain he must pay for this insurance.—C. F. P.

The Cambria County Game & Fish Protective Association will hold its fourth annual Coon Dog trials at Gleason Fields south of Portage on May 15. Entries are expected from Ohio, Maryland and Delaware. All money made at the trials is used for restocking game.

LOST: One Male blue-ticked hound, 22" to 24" at the shoulder, one white eye. Lost evening of March 22 near Steel Mountain. Answers to name of Whitey. Cambria County tag, 1938, No. 2009. Wearing name plate when lost—reward. Notify Joseph Oravecz, Portage, Pa.

WITH THE CLUBS

QUESTIONS AND ANSWERS ON ARCHERY

By Clayton B. Shenk

Editor's Note:

Through the courtesy of Clayton B. Shenk, Secretary and Treasurer of the Pennsylvania State Archery Association, we expect to run monthly a series of questions and answers on this and other interesting and popular sports.

1—What is archery?
A—Art or practice of shooting with bows and arrows.

2—Is archery a seasonal sport?
A—That depends on how you look at it and in what part of the country you live. Many of the states have a target season of six or seven months followed by a hunting season in the fall. Some clubs have indoor shooting ranges for the winter months. In Texas and California outdoor shooting at targets is a year round sport.

3—Is archery a strenuous sport?
A—Archery is not an active sport, but it can be made as strenuous as one wishes to make it. A tournament lasting from 3 to 5 days is an endurance contest.

4—How does one play a game of archery?
A—Archery is not played in games, it is played in rounds.

5—What are some of the rounds in Archery?
A—Some of the rounds are: York round. consisting of 72 arrows at 100 yards, 48 arrows at 80 yards and 24 arrows at 60 yards, American round, consisting of 90 arrows with 30 shot at 60 yards, 30 at 50 yards and 30 at 40 yards. Team rounds, 96 arrows at 60 yards for men and 96 arrows at 50 yards for women. Archery Golf played much the same as regular golf with bows used as drivers and arrows taking the place of balls.

6—How long does it take to shoot a round?
A—From two to three hours.

7—Do men and women shoot the same rounds? Do children shoot the same distances?
A—Women never shoot the York round in competition with men, but the other rounds are enjoyed by both sexes. Children shoot shorter rounds than either the men or women.

8—How many arrows are shot at the target by each person before retrieving same?
A—Six arrows. This is what is known as an "end" in archery.

9—What size is a target and what material is it made from?
A—A regulation size target is 48 inches. Targets can be made from many different kinds of materials but the most satisfactory is long fibrous rye straw.

10—How is the scoring face divided on a target.
A—The scoring face is divided into five equal parts of 9.6 inches each the center painted in a gold color with a value of 9, the second ring is painted in red with a scoring value of 7, the next ring is blue with a 5 value, the fourth or black ring counts 3, while the fifth ring, painted white, counts one.

11—How far can an arrow be shot?
A—The free style flight shooting record of the National Archery Association of the United States is 614 yards 6 inches.

NEW CLUBS

The Ramsaytown Sportsmen's Outdoor Association—W. C. Pendleton, Secretary.

The Mercersburg Sportsmen's Association —Rev. James W. Moyer, Secretary-Treasurer, Mercersburg.

North Eastern Lancaster County Rod & Gun Club, incorporating Terre Hill, Bowmansville, Finepointville, Union Grove, Blue Ball, and Martindale.—Secretary, J. Elmer Zimmerman, Blue Ball.

The Jefferson County Sportsmen's Ass'n., is sponsoring a Junior Rifle league and hope to have six teams competing.

Wissahickon Field and Stream Association of Ambler—Secretary, Dan Biddle of Ambler. This is one of the clubs which give a subscription to either the Game News or the Angler to all members.

"It is not the amount of game killed or the number of fish caught, but the day afield with good companions that makes hunting and fishing so beneficial," remarked Seth Gordon, in an address to the Sunbury Gun Club, March 9, 1938.

The Carlisle Fish and Game Association recently established a 35 acre game refuge. This club pays farmers for grain they leave stand and in return the farmers permit them to post certain portions of their farm as sanctuaries.

There are a lot of people interested in fox hunting in some of our counties, according to a report of the attendance at the recent banquet of the Pennsylvania State Fox Hunters Association held in Washington, Pa. Over 450 devotees were on hand.

The Crow Foot Rod & Gun Club of Wilkinsburg—A. C. Vogel, Secretary.

A number of sportsmen from McKeesport, members of the Keystone Hunting Club, located on the Medix Run Pike in Elk County, were feeding game in that section on March 6 when they found a small buck fawn. It was just about starved to death. They loaded it on a truck, took it to Game Refuge No. 34 where it was given first aid by Refuge Keeper E. W. Turley. He gave it some warm milk, placed it in a warm bed that night and the next day fed it some apples. It convalesced rapidly and was released in good condition on March 13.

LOST—One 20 gauge 26" barrel, single trigger, Ejector Shot Gun L. S. Smith, near Dorseyville, ten miles north of Pittsburgh. Liberal reward offered by E. K. Morse, 345 Fourth Ave., Pittsburgh, Pa.



VETERAN TRAPPERS OF THE BLUE MOUNTAINS

Milton Wert and Dan Phillips, of Schuylkill Haven took up fox trapping back in 1927, and have been exceptionally successful ever since. Now along with advancing years came orders from the Doctor to Milt that the vigorous mountain climbing must stop or that his heart would. The result—one dejected fox trapper. However, he figured if he took it easy he could still stand the gaff. Well Milt and Dan Phillips took it easy and Dan was in the other day to see Game Protector John Lohmann with his catch of foxes for last winter; 2 fine reds, and 8 grays. To date these veteran trappers have secured 201 foxes, mostly grays, and have rendered to the small game hunters of Schuylkill County a service that cannot be measured in dollars and cents. Both men are looking forward to next trapping season. Photos show a part of a catch of 23 foxes taken some four years ago along with some 'coon, rats, skunk.

SCATTER LOADS

WHAT might be termed the first wildlife legislation in this country took effect just 209 years ago. In 1629 the West India Co. granted hunting privileges to persons planting colonies in New Netherlands. Since that time legislation and legislators have played an important part in the preservation and restoration of American wildlife.

By 1694 the first closed season on game ever known in America had been declared in Massachusetts, which forbade the killing of deer during part of the year. Sixty-six years before those who conceived this great Nation and declared its independence, the use of sail or blind boats for waterfowl was prohibited. This was the first legal limitation of hunting equipments in our country. The first American game officers were appointed in 1739. They were known as "deer wardens," and were the forerunners of our modern game wardens.

BEAVERS DEFY U. S. BUILD DAM IN SPITE

The Federal Government took official cognizance today of Forest Ranger Andres McConkie's troubles, admitting that he has lost the first round of an "openly declared war" with a colony of beavers.

McConkie, it was explained, isn't a man to bother the Government with small problems.

The beavers, it seems, have built a dam on Panther Creek in the Salmon National Forest in Idaho, against the wishes of Secretary of Agriculture Henry A. Wallace.

McConkie has torn up their dam repeatedly and each time the beavers built a better dam than before. When the beavers carried the battle to his own front yard and cut down his shade trees in retaliation, that was too much.

The Department of Agriculture issued an official report criticizing the beavers.

About three years ago the beavers began to increase the size of their dam. That caused water to flood about two acres of pasture belonging to the Cooper Creek Ranger Station.

McConkie bought a high-powered tractor and tore out the dam.

"But," the department reported, "the beavers worked nights, holidays and Sundays rebuilding the 40-foot dam every time it was destroyed by McConkie.

"Also the beavers apparently learned better construction methods with more experience and practice. In one instance they even tied the logs together with 80 feet of ranger's emergency telephone wire."

In 1869, from the town of Hartford, Michigan, three carloads of dead passenger pigeons were shipped to market each day for forty days, making a total of 11,880,000 birds. (W. B. Mershon's book, "The Passenger Pigeon.")

Anthony Boxer, of Shenandoah, reports killing a ringneck last season that weighed 6½ lbs., and had a tail 36" long.

WHAT PENNSYLVANIA HAS DONE

The marvels that can be accomplished by the application of scientific, non-political conservation measures are clearly illustrated by the classic example of Pennsylvania.

Thirty years ago, Pennsylvania woke up to find the game in her fields and woods and the fish in her streams dwindling to the vanishing point—a situation comparable to that now existing in Missouri.

Three commissions were set up—one for game, one for fish and the third for forestry and stream rehabilitation. From the beginning, the members of those commissions were selected for their fitness and not for political considerations. Concentrated efforts were made to increase game through propagation, refuges, short shooting season, small bag limits and strict law enforcement. More than 1,000,000 acres of forest land was acquired and millions of trees were planted, both on public and private lands. As a corollary, erosion has been virtually eradicated and streams have been restored to their natural state, instead of being full of sand and gravel and devoid of aquatic plants, as they are in Missouri.

The result is that Pennsylvania is reputed to have more game than in the days of the Indians. Deer are so plentiful it has on occasion become necessary to declare an open season on doe. Black bear are not uncommon, while wild turkey, pheasant, quail, squirrels and rabbits abound.

Consider the opportunities that lie before Missouri. Pennsylvania is only about two-thirds as large as this state, and has three times as many people. By the application of the same methods, this state, within 10 or 15 years, can be made to teem with wildlife of all kinds.

This despite the fact that our new Conservation Commission is almost starting from scratch. Our deer are pitifully few. We have no bear. The wild turkey is practically extinct. In many parts of the state, quail have virtually disappeared. In equally sad plight are our streams.

If Pennsylvania can reverse conditions like this, Missouri with its greater territory and smaller population, should be even more successful.—St. Louis Post Dispatch.

STOLEN: On March 4, from the Robert's Hardware Store, Sharon, Pa. One new Model 70 Winchester Rifle, 300 magnum, 26" barrel, serial No. 14384. Any information regarding this gun will be appreciated by R. W. Robert of Sharon.

If a forest fire can catch and kill a fleet footed deer, what chance have the smaller, slower animals? What chance has a human being caught in a blazing inferno?

The United States Forest service fought an average of thirty fires a day in 1937. Of the 11,586 fires which started all but 242 were under control within twenty-four hours.

NORTH DAKOTA BOYS BUILD NOVEL IGLOOS FOR BIRDS

Boys working on wildlife refuges in North Dakota took a tip from the Eskimo this winter.

As part of the wildlife conservation program of the United States Department of Agriculture they built feeding shelters of foot-square blocks of snow, laid loosely like a brick wall. The shelters, built where there is no natural protection, are ideal observation spots for the boys, recruits of the National Youth Administration, working under supervision of the United States Biological Survey.

The shelters, with feed scattered about them, concentrate pheasants, grouse, and many other game and nongame birds. Observations on the birds as well as other data on the number, condition, and habits of wildlife in the areas are reported to the Biological Survey to further the wildlife restoration program.

It is estimated by the Michigan Conservation Commission that over 300 deer are killed annually on the highways of their state.



While trying to reach some twigs this dee caught its foot in the crotch of the tree. It was found dead by Frank B. Oviatt, of Betula, Pa.

SCATTER LOADS

"JAY WALKING" DUCKS AN AVIATION PROBLEM

One of the problems worrying the Bureau of Standards at Washington in connection with aviation is ducks. Warren E. Emley of the bureau told a meeting here this week of the American Society of Testing Engineers that ducks had no sense of air traffic regulations and refused to give right of way to an airplane.

The attendant impact is at a velocity of about 100 feet a second. Such a speed can wreak havoc with an airplane and if the pilot is not killed when the jay-walker crashes the windshields, the plane at least will be disabled.

Mr. Emley said the bureau ran into the duck question when it began testing plastics to be used as airplane windshields.

The bureau has been making synthetic ducks of rubber and firing them at plastics designed for windshields at the theorized velocity. So far, he admitted, they have not found a material that will stand up to the impact.

Most recent accidents with ducks in the air have been with Canadian honkers. These birds weigh seven to eight pounds each and an airplane struck by one does not stand much chance.—From The New York Times.

Approximately eighty-eight per cent of a toad's food consists of insects. In a three month period about 10,000 injurious insects will be destroyed.

OUR BIRDS

By LeRoy F. Anderson

Too few people take any interest in our feathered friends, yet they know they are here, see them flying about, but never give it a thought of really what benefit they are to us. Did you ever stop to think what our country would be like without them? Few ever do. Without the birds soon all the vegetation would be destroyed by insects and worms and soon we would all be starving. This is only one of the many reasons why we should give our birds more thought.

Have you ever awakened early, on a bright summer morn and heard the birds singing? Doesn't it make you feel glad to be alive in such a wonderful world?

The birds are like the trees of the forests, they must be protected to keep their beauty and to have protection for our birds, we must first establish interest in them among our people.

Children as well as grown ups should be taught to take great pains in preserving our bird life. Neither man or boy should consider it sport to injure or kill in any way a bird, a bird which means so much to our human race. The study of bird life should be made by everyone and interest should be taken by all to give our birds proper protection.

Let's all join the ranks of good sportsmanship and do a good turn for the birds.

Don't kill the innocent helpful birds, feed them, build houses for them, and give them protection.

INDUSTRIOUS BEAVERS

Beavers often aid the erosion control engineer.

On upper Mission Creek near Cashmere, Washington, these industrious animals built nearly 60 dams on about 5 miles of the waterway in the last 2 or 3 years. The Soil Conservation Service estimates that 22 of these dams hold nearly half a million gallons of water and help to stabilize stream flow and to prevent washouts downstream. In addition, the dams have caught almost 6,000 cubic yards of silt, protecting valuable orchard lands from damaging deposits of erosional debris.

On Ahtanum Creek near Yakima, Washington, the beaver also has proved an efficient upstream engineer. One dam across this stream is more than 100 feet long and impounds about 5 acre-feet of water. Erosion control engineers estimate a similar man-made structure would cost in the neighborhood of $2,500.

According to a recent report of the Chief of the United States Forest Service our remaining forest lands now total 615 million acres; about one-third of our continental land area. Noncommercial forest lands are rough and nonagricultural. They occupy 120 million acres, with 48 million in private and 72 million in public ownership. Commercial forest lands total 495 million acres, but under present conditions only about half the timber on them can be logged at a profit. Of this 495 million acres 80 percent is in private, and the poorest 20 percent is in public ownership.

NIMBLE SQUIRREL TEST FOR ANY HUNTER

(Continued from page 18)

as it projects out from the opposite side of the oak. One may work carefully around the tree without getting another glimpse, the squirrel continuing to keep the body of the tree between the hunter and himself.

One recalls an old trick learned in the mountains of Kentucky many years ago. Bringing the rifle to his shoulder with one hand, the hunter sails his hat a short distance beyond the tree. No sooner does it hit the ground than the squirrel is on the hunter's side of the tree trunk and he collects his second of the day.

Sport Is in Hunt

A hunter does not bag all the squirrels he sees by any means. Sometimes he will spend an hour trying to outwit some old-timer, only to lose sight of him completely. But to the real sportsman the thrill is in the hunt and not in the kill and so he does not feel downhearted when he fails to bag all he sees.

While still hunting one may see many things beside squirrel that make the day enjoyable. In October, deer season still is a month away and the deer are tame. One may see a doe with her fawns, eating acorns, or perhaps a lordly buck carefully testing the wind with his sensitive nostrils as he wanders through the woods.

Sometimes a red fox is seen slipping quietly along and the hunter may get a shot at Michigan's most destructive predator, the coyote.

If the hunter wants more action, he can get it by using a good squirrel dog. Contrary to the general impression, squirrels are not readily treed by dogs and they sometimes will run as far as 80 rods before seeking sanctuary in a tree.

Are Elusive Animals

In hunting squirrel with dogs, one turns them loose in the same fashion as he would do if he were hunting rabbits. In a few minutes, if in good squirrel country, one may hear the dogs giving tongue. The hunter starts on the run. Before he can get to the dogs he hears the change in their tone that denotes that the squirrel has been treed. The important part of hunting with dogs is to get to the tree as soon as possible after the dogs bark up, as the squirrel is much more likely to run through the tops if put up by a dog.

Many times one finds a dog barking at the tree the squirrel went up and finds the squirrel several rods away in another tree. One of the things that makes squirrel hunting interesting is the fact that the animals do not run true to form in selecting hiding places. Some prefer the very tops of the tallest trees they can find while others place their trust in the concealment offered by a crotch near the ground.

Sometimes one searches in vain for the squirrel and fails to find him. With the dog still insisting that he is in that particular tree the hunter looks into the top from every angle and is at the point of leaving when a vagrant breeze will cause the long, lacy tail to wave just enough to attract attention and to give away the squirrel's hiding place.

Blacks, Greys Increasing

At the present time, and in many parts of Michigan, black and grey squirrels are nearly as plentiful as fox squirrel.

Squirrel dogs, like Topsy, "just happen." They are of no particular breed or kind, no royal blood runs through their veins and their masters do not boast of their pedigrees or championships.

The dog may be a collie that brings up the cows at night or a fox terrier that sits in the best chair at home. The best squirrel dogs the writer has known were part beagle and part fox terrier.

But whatever the breed, there is one essential qualification: They must stay at the tree the squirrel goes up.

However, whether one hunts with dogs or still hunts, as he returns to his car in the gold and crimson of an autumn sunset, he is thankful that he has been able to spend the day in answer to the call of the red moon in such surroundings. And, if he has been successful, he knows he will have a dinner of one of the finest-flavored of all Michigan game animals.

THE ART OF BIRD BANDING

(Continued from page 10)

turn." If the bird is killed or retrapped by someone else it becomes known as a "recovery."

By far the majority of recoveries are dead birds and the various records are too numerous to mention. However, the majority of his recoveries have been made along the Atlantic States and in some cases the Gulf States. The greatest number of recoveries of White throated sparrows banded by Mr. Middleton have been reported from the Carolinas, but one individual was trapped by another bander out in Wisconsin seven years after he had banded it at his station. Just how that bird got apparently sidetracked is hard to explain, but further banding may make the reason clear to us.

Often times interested persons have asked if the birds are not frightened away from the particular section in which they have been trapped after undergoing the ordeal of being handled. Since 1921 Mr. Middleton has had over 18,000 "repeats"—(birds retrapped within a few days after they were first banded.) One particular Song Sparrow has "repeated" over 100 times in less than three years.

Many bird banders have worked with the migratory waterfowl, banding hundreds, even thousands a year. Many of these birds are taken as fledglings in colony breeding grounds or trapped in large numbers during the migration periods at points widely scattered. Other banders have specialized on the song birds and in order to do so have had to establish permanent stations in order to acquire the data they seek. At a station of this type a bander has an excellent opportunity to secure not only valuable migration data, but detailed information on little known characteristics of both seed eating and insectivorous birds. Often times these characteristics have a humorous side when close scrutiny is brought into play. For instance we learn from Mr. Middleton's close check on nesting wrens that all the philandering, yea, even deceitful, two timing males are not restricted to the human race.

Here are there about his home are numerous bird boxes many of which are intended for, and occupied by wrens. As the wrens mated up four houses were occupied and all went well until the eggs hatched. The males and females of each box had been banded and their matrimonial status recorded when a fifth female put in her appearance at a nest box on the opposite side of the Middleton home from what we shall refer to as box No. 1.

The female in box No. 5 was enjoying the courtship of her mate. Working together they constructed the nest. Mr. Middleton watched the activities for he was particularly interested because he had noticed the band of the male. Much to his surprise the male suddenly darted away, flew around to box No. 1 and burst into song as he came to a stop on the perch of the house. After a moment of singing he dropped to the ground, sought out a few choice tidbits and fed them to the newly hatched young in the No. 1 box. Upon completion of this little feeding episode he returned to resume the establishment of the new nest in box No. 5.

All day long these little visits back and forth continued. A few days later the male was retrapped as it returned to feed the young in No. 1 box and his suspicioned status was confirmed by the number of his band. The mate of the female and the "sire" of the brood in No. 1 box was wooing the newly arrived female in No. 5 box and he was energetically assisting with the chores of both houses.

About the time the young left No. 1 box in the company of both parents, the eggs in No. 5 house hatched and the over ambitious little male was busier than ever. Feeding youngsters, newly hatched, is job enough for any male, but feeding five other youngsters learning to fly in addition was no doubt a Herculean task indeed. The male was trapped a day or two later as he entered Box 5 to feed his second family and within an hour or so he was trapped again in a funnel type trap located about 150 yards from the house and with him were three of his youngsters of his first family.

Slowly, but surely bird banding is unraveling tangles of conflicting suppositions and in addition is revealing hitherto unknown facts. About 2,000 banders throughout the United States are cooperating in an effort to advance our knowledge of our feathered watch dogs whose keen appetites help beyond comprehension to hold in check the weeds and insects so detrimental to agriculture.

In the event you should find one of these banded birds, write to the Biological Survey, Washington, D. C., and tell them the number of the band, the species of the bird, if you know it, where and when you found it and your cooperation in the furtherance of this work will be appreciated.

Mr. Raymond Middleton "refilling" a protected bird feeder.



THE STREAMLINED GUNNERS

(Continued from page 17)

even though he may not have killed any game. He may have played a losing game, but he played his best game, he played fair and perhaps could have won had he been of a mind to shoot, then go and see what he had shot.

Last, but by no means least, there is a group of men that realize that there is more to hunting than killing game. The TRUE sportsmen. Men that get a thrill out of climbing the hills in search of game. Men that enjoy coming back to camp dead tired, at night, cooking their evening meal, smoking for awhile, telling stories of the game that they saw but didn't get. Then to bed, with high hopes for the day to come.

Among this group there are men who have tried and tried in vain, for ten years an longer, to shoot a buck. This coming seaso will find them in the woods once more, ju as enthusiastic as they were the first tim they hunted large game. Praise be to Th Red Gods that these men comprise the va majority of the hunters that tramp Pen Woods.

Story sent in by Robert K. Greenawa

OUR FEATHERED FRIENDS

By DR. GEORGE MIKSCH SUTTON



Wood Pewee Phoebe

The pussy willows are gleaming silver gray on their dull green stems, and the brook by which they are growing sparkles and trips with a fervor increased by the bright warm sun. We have heard robins and bluebirds already, and killdeers have been calling loudly on the old pasture but this morning a new voice is heard, and yet familiar as the old bridge itself, near which he sings.

It is the phoebe. His modest little call trembles with prophetic enthusiasm, and he spends, it seems to me, too much time singing and not enough in capturing insects, which are all too few, this early in spring.

When we approach him we are not surprised to find him a dull gray creature, without a single spot of brilliant color to make him a bird celebrity, but his eyes are bright, he is very much alive, and his tail wags confidently as he looks now at us, and now at a passing gnat or crane fly.

He belongs to the Flycatcher family, and as he darts away after a victim fly his bill snaps ominously as he makes the fatal capture. Back he comes to his perch and calls once more, "Fit-i-be, we-be," the first part of the song going up, the latter part, down.

Under the bridge a nest will be built of mosses, vegetable fibre and mud. On the soft white lining will be laid five thin shelled white eggs, one or two of which may be sparsely spotted with dark brown. How many times a day must the female bird look upward at the passing wheels, feet, or perhaps bare legs dangling on the edge of her bridge roof.

The little phoebes are drab in color, and are queer creatures with their down natal feathers hanging to their plumage.

Phoebe is an early arrival in spring and leaves rather late in the fall. During September and October they may be seen in the upper woodlands, some distance from their bridgehome.

OUR WILD NEIGHBORS

By EARLE L. POOLE

THE GRAY SQUIRREL
(Sciurus carolinensis)

The Gray Squirrel is one of the most familiar mammals throughut the hardwood regions of our northwestern states. It is such bright and active animal that it is a favorite in parks and private estates, where it often becomes exceedingly tame, although it is usually considered a game animal that is worthy of the best sportsman's skill.

Gray Squirrels pass through cycle of abundance, so that they nay become quite common for several seasons, and then suddenly ecrease until they become rare for a few years. During the seaon of greatest abundance they often perform extensive migraions in the fall, traveling across country and swimming creeks and ivers on their way to fresh feeding grounds. In former years, ome very remarkable migrations were witnessed and described.

These animals are most active in the early morning and toward vening, when they are in search of food. They eat a great variety f nuts, fruits, seeds, and buds, according to season, and are ot adverse to animal food when it can be obtained. On occasions hey have been known to rob birds nests, but to a less extent nan the smaller Red Squirrels. Unlike the latter animal, the rays do not store up large quantities of food for winter use, but ury many nuts separately in the fall, and seem to have a remarkble faculty for finding them again. They hibernate partially durng the most severe weather, but any fine day in winter will find nem out again hunting their buried caches.

The homes of the Gray Squirrels are of two types, either in hollow trees or old woodpecker nests, or else the covered open-air nests of leaves and twigs that are so often seen in the forks of trees. The young are usually born in the open nests, and consist of two litters of from three to six.

Where two species of squirrels come in contact a feud is sure to result, and the enmity of the Red and Gray squirrels is well known. The smaller and more agile reds usually have the advantage in these encounters, and sometimes bullies the grays unmercifully.

(There is probably no truth in the superstition that the reds emasculate the grays, as other causes such as the periodical withdrawal of the testes into the abdominal cavity, and the work of the botfly accomplish the same results.)

The Gray Squirrel has many enemies, but is usually well able to take care of itself. After man, the larger and more active hawks such as the Cooper's, Goshawks, and Redtail, are probably its most serious foes.

One of the most remarkable features of the Gray Squirrel is its splendid tail, which is almost as long as the head and body. Besides serving as an ornament it acts as a parachute in case of a fall, a balance, when running among the swaying branches, a blanket in the cold weather, and probably at times a foil from its enemies, as occasionally Bob-tailed Squirrels would seem to bear witness.

RAISING YOUR PHEASANT CHICKS

(Continued from page 11)

uickly in wet weather. Pheasants should not be reared on ground o infected, but should the affliction occur among the birds imediate treatment must be given.

The gape worm lodges in the bird's wind-pipe and can only be ffectively reached by inhalation. Afflicted birds will cough and nake their heads at regular intervals, in an effort to rid themelves of the parasites. When first afflicted, they will "gap" in a anner quite similar to a person yawning and do so at frequent tervals.

The most effective remedy for this malady is to dust your birds. lackerite, manufactured by Spratts, Ltd. is used on the State ame Farms and complete directions accompany each can of this usting powder. The birds are placed in a partially air-tight box nd forced to inhale the powder. This kills the worms and the ritation causes the birds to cough them up.

Gape worms must be treated or the affliction will spread, weakening the young pheasants and making them easy prey to disease. Even those strong enough to survive will be badly stunted unless the worms are removed. Whenever it is at all possible, pheasants after being thoroughly treated for gapes, should be moved to fresh ground.

Always Remember . . .

To maintain strict sanitation, regularly washing and disinfecting all feed and water containers and keeping brooder house litter dry and clean.

. . . To prevent access by the birds to any wet, soured or mouldy food at any time.

. . . To feed **plenty** of green feed, (lettuce and grated carrots preferred) to your birds all through the growing season.

. . . To feed and care for your birds on a strict schedule. Regularity will pay big dividends.

"FORWARD—GRADUATES"

(Continued from page 9)

encouraged to move forward in this great work of wildlife restoration.

Following is a list of the Graduate officers, with home addresses as well as new headquarters:

NAME	HOME ADDRESS	NEW ASSIGNMENT
Bowman, Gilbert H.	404 S 2nd St. Lykens, Dauphin County	Thornhurst, Lackawanna County
Checklinski, Jos. S.	166 W. Newport St. Glen Lyon, Luzerne County	Newport, Perry County
Coffin, Fuller H.	309 Morgantown St., Uniontown, Fayette County	Waterford, Erie County
Crooks, Millard M.	RD 1, Ceres, N. Y. McKean County	Stoystown, Somerset County
Decker, Clyde W.	21 Clay St., North East, Erie County	Medix Run, Elk County
Filkosky, Peter J.	1325 S. Irving Ave., Scranton, Lackawanna County	268 W. Market St., Marietta, Lancaster County
Ganster, A. Clinton	217 Valley St., Marysville, Perry County	39½ E. Main St., Ephrata, Lancaster County
Harter, Harold F.	613 S. Allen St., State College, Centre County	RD 1, Keating Summit, Potter County
Hodge, William A.	Pine Glen, Centre County	223 S. Gilpin St., Punxsutawney, Jefferson County
Hoffman, Howard F.	818 Monroe St., Stroudsburg, Monroe County	RD 4, Susquehanna, Susquehanna County
Holtzapple, Raymond E.	Middleburg, Snyder County	Mt. Gretna, Lebanon County
Howland, Herman W.	1129 High St., Williamsport, Lycoming County	Snow Shoe, Centre County
Latimer, James L.	7 Washington St., Muncy, Lycoming County	Williamsburg, Blair County
Miller, Donald E.	Beaverdale, Cambria County	22½ W. Park St., Corry, Erie County
Russell, Harold E.	RD 1, Bedford, Bedford County	Petersburg, Huntingdon County
Shuler, John S.	117 Center St., Millersburg, Dauphin County	Kittanning, Armstrong County
Sickles, Raymond M.	RD 1, Canonsburg, Washington County	54 Wilson Ave., Uniontown, Fayette County
Siegel, Chester S.	RD 2, Cogan Sta., Lycoming County	Benton, Columbia County
Turley, Roland F.	Medix Run, Elk County	Box 451, Saxton, Bedford County
Turner, Elmer J.	RD 2, Jonestown, Lebanon County	Box 52, Philipsburg, Centre County
VanOrder, Vern A.	154 First St., Johnsonburg, Elk County	Marienville, Forest County
Weigel, Samuel K.	201 High St., Zelienople, Butler County	Hawley, Wayne County
Welch, Lloyd B.	8 Main St., Houston, Washington County	Doylestown, Bucks County
Whippo, Levi R.	Box 425, Wilcox, Elk County	Hillsgrove, Sullivan County
Zaycosky, Anthony J.	Sykes St., Sykesville, Jefferson County	Patton, Cambria County

The two non-resident students who completed the course were, Carter, Thomas M., Washington, North Carolina, McLean, William R., Eagle Springs, North Carolina.

Of the twenty-five resident graduates, eleven were Deputy Game Protectors at the time of their enrollment in the School, which shows the value of Deputy service in qualifying for full-time field positions with the Game Commission.

After the graduation ceremony the students were interviewed in groups of five by the Executive Director and his Assistant, Mr. Judd C. Turner. The class was practically unanimous in its opinion that the School course is very complete and comprehensive, and that no part of it should be eliminated. Among their suggestions for improvement were: More legal procedure and Game Law study, additional game management, more identification work in connection with trees, hawks, owls and other native birds, and more time to be devoted to public speaking and public relations.

All but one felt that the military aspects of the School are not overdone, and that they are essential to proper school discipline and to improve poise and appearance. The School staff was praised in the highest terms for its efficient management. All of the graduates expressed a desire for additional training, and a willingness to return to the School to take the refresher course at any future time an opportunity is given.

Indications are that the cost per graduate student of training the 1938 class will be about $875.00, which includes necessary uniform and other permanent equipment required for later field use. This amount seems comparatively small when the advantages of a good practical training for conservation work are considered. Under the old system an officer entered into this highly specialized profession wholly unprepared and definitely handicapped. The School training removes this handicap to a remarkable degree and equips him better to handle the work which the sportsmen expect him to perform. The investment in this additional mental and physical equipment seems well worthwhile and can reasonably be expected to pay rich dividends in still better Pennsylvania wildlife administration in the years to come.

WILDLIFE IN THE FARM PROGRAM

(Continued from page 6)

should just drag the ground so that in mowing they will sweep over and through the grass.

In order to prevent the inner chains from tangling in the horse's feet when turning, a diagonal wire should be run from the middle of the pole to that chain, attaching it about half way down the inner wire.

The best means of attaching the pole to the tongue of the mower is to make two single brackets of old scrap iron, in the form of a right angle, with each arm about eighteen inches long. These should be drilled for ⅜" bolts by which they are attached to the tongue. The pole may then be fastened by means of bolts or wired to these brackets. If it is felt that this is too complicated, the pole may be wired to the neck-yoke, but the brackets are easily made and far more preferable.

Most of the sportsmen's organizations in the State are willing to furnish flushing bars for all farmers who will use them. Any farmer who desires to use a flushing device and cannot find the time to construct one, should get in touch with a nearby sportsmen's organization.

How Sportsmen Can Help—Where flushing devices are not used sportsmen can assist in locating nests before mowing starts by traveling on foot along the first fifty yards at the edges of fields. Many of the nests can be located and marked with a tall stake or brush firmly stuck into the ground in order that a patch of grass may be easily located by the farmer when mowing starts. He simply mows around, or raises the cutting bar over the spot marked as a nest location. A rope stretched between two men walking abreast, and allowed to drag over the grass prior to the time mowing starts is an efficient method of locating nests.

Mowing brush and weeds along roadsides and railroad right-of-way should be delayed until August, or after. It would be better, where officials in charge of this work are willing to provide for the cutting of such material every two or three years instead of annually. Where material cut along roadsides must be burned, it should be done early in the spring before nesting season. The same applies to grassy stretches along ditch banks and near hedge rows. There areas should not be burned or pastured during summer and fall.

(To be concluded in the next issue)



Shrubs along this fence row would improve the scenery and provide food and cover for wildlife.

A REPORT ON WPA ACCOMPLISHMENTS IN WILDLIFE CONSERVATION

(Continued from page 7)

ble to provide more regular employment for nen previously secured through the W. P. A. after having become familiar with their haracter and quality of work. Such men ave since acquitted themselves to our satisaction.

Improvement Standards

Perhaps 85% of the work accomplished ould not have been conducted had not unmployed men been made available through V. P. A. funds. Certain game bird experiental activities on game farms were conucted far beyond the point possible without W. P. A. assistance, which is true likeise of environmental and other improvenents within the half million acres of State Game Lands.

Improvements to wildlife conditions thus ecured directly benefits game which, in turn, enefits the 600,000 hunters of the State. However, a large proportion of the populaion benefits indirectly.

The Commission has been able to expand s services to hunters at a better-than-norhal rate, but it is scarcely possible to estinate the advantage in years. It has been ble to develop both experimental and demnstration projects which will be of service to hunters. For instance, the Commission is demonstrating to hunters, foresters and the public that sound game management practices in forest territory, largely by carefully conducted cutting operations to stimulate the production of sprout, vine and shrub growth, will benefit wildlife without detriment to a future timber crop, and that such cutting operations are much better in this connection than to burn certain forest acreages.

Work Relief and Direct Relief

We think there is no question but that work relief is far superior to direct relief wherever the unemployed can or are willing to work. As a matter of fact, an unemployed person who is able to work but unwilling to do so deserves no aid. We regret to say that we are not in a position to estimate what part of the whole field of relief should be covered by work relief, and what part by direct relief, but must leave that to those who have had experience with direct relief.

Summary

The several W. P. A. Projects sponsored through the Division of Propagation and Game Farms were conducted on the following:

Fisher State Game Farm, Schwenksville, Montgomery County.

Loyalsock State Game Farm, Montoursville, Lycoming County.

Jordan State Game Farm, New Castle, Lawrence County.

State Wild Turkey Farm, Honey Grove, Juniata County.

By far the greatest number of projects were sponsored through the Bureau of Refuges and Lands. Most of them were similar in nature, and were distributed over a large proportion of the counties of the State but principally in mountainous sections. An attempt to enumerate the projects would require considerable time and effort, for which help is not available, nor is it thought necessary. It might not be overly burdensome to list the various blocks of State Game Lands, their location and acreage on which, in many instances several projects each were conducted, should that be desired.

Seventy-five thousand colored posters, and many 4′ x 6′ road signs, have been made and distributed throughout the State.

FORGOTTEN MEN

(Continued from page 13)

December 14, 1936.

ly dear Mr. ———:

You non-hunting fathers are putting me n the spot in a manner I never expected hen I undertook my work here at the chool. So pardon me if I go to some length o explain how I feel about the problem of a oy with a gun.

Sometime in nearly every man's life he nds himself with a gun in his hands. If he nows how to use it and appreciates the anger of missing it, he is a reasonably safe eighbor. On the other hand, if all he knows bout the arm is that it shoots and has never een what it can do in the matter of ripping oles in planks, he is a dangerous member f society.

To me it seems that a boy is far more willng to be told how to handle a gun than the verage man. With a little teaching and some xperience in the field he forms habits of afety that many men never have. I learned to handle a gun safely) by the hit and miss ethod. This was due to the fact that I was old I could not have a gun and promptly ought one and kept it a safe distance from ome.

In my opinion your boy might well have a 2 single-shot rifle. He has used mine most f the fall and has developed rapidly in his bility to hit the mark; but that is not quite he same as owning one. I think I know how he feels. We old hunters often say that no gun feels just the same as your own. I have my first shotgun, presented to me in 1898 when I was fifteen, and I love the old arm.

The practice at the School is that each boy turns in his gun as soon as he comes from the field and one of the Masters keeps it until I call for him at some later date. In this way the danger you mention does not exist.

When you stop to think of the motor accidents and compare them with hunting fatalities, hunting looks pretty safe. Add a little knowledge of guns and how to use them and I would feel easier when my boy was in the woods than when in a car. My "boy" is a girl, but she can shoot a rifle, and safely, even though I do not claim she can hit anything.

I want you to know that your boy is supervised in all of his shooting just as carefully as though he were my boy. As a matter of fact he is "my boy" while we are together in the woods.

I hope that I may have the pleasure of meeting you at some early date.

Sincerely,

Austin D. Haight.

That youngster has his gun. He is happy that he is trusted with it and throughout the winter he has been shooting on our range. Like many hunters he does not care to shoot at the orthodox target but I have found substitutes, little clay discs about three inches in diameter which go to pieces in that satisfying manner of spattering in all directions that shooters love.

This is fun but more than that it is practice for vermin hunting in the coming spring. The list of predators has been gone over. Crows, red squirrels and woodchucks are really in their minds when they shoot at those clay discs.

Next autumn some of these boys will be hunting real game. The older boys who can use a shotgun have been shooting at clay pigeons just as often as their pocketbooks permit. On the snow a clay target can be retrieved and at first some of them were sent on their way many times but now the boys are breaking them. The thunder of a flushing grouse will startle them, it may chill their blood, as it does mine, so that they may forget to shoot; but at least they will go into the woods with confidence born of the knowledge that they carry an arm that is dangerous only in its misuse. A natural, thrilling life in the open is born within them that will make them better and more careful men.

THE TRAGEDY OF THE DELAWARE

(Continued from page 3)

Delaware River from 35 to 40 feet at low water. Some of the finest waterfowl areas on the Atlantic Coast border the lower Delaware and any filling done to them would be extremely serious.

In order to remedy the situation, several suggestions are offered:

1. Have the Government allocate sufficient money to permit the material dredged from the channel to be removed in barges or disposed of in other ways than by pumping on the marshes.

2. Divert part of the money collected from the sale of Federal Migratory Waterfowl stamps to the additional cost of dredging the channel if the material were not deposited on the marshes.

3. Have the Commonwealth of Pennsylvania and the State of New Jersey through their Game Commissions purchase some of the remaining marshes with money appropriated to them under the Pittman-Robertson Act and preserve them as migratory waterfowl and game bird areas.

The writer has brought this matter to the attention of the Secretary of Agriculture of the United States, the Secretary of War and the U. S. Bureau of Biological Survey, the U. S. Army Engineers, the Governors of Pennsylvania and New Jersey, U. S. Senators from these states, U. S. Congressmen from districts bordering the Delaware River, the Association of Middle Atlantic States Fish and Game Commissioners, the New Jersey Board of Fish and Game Commissioners, the General Wildlife Federation, the Pennsylvania Federation of Sportsmen's Clubs, the Affiliated Sportsmens' Clubs of New Jersey, the New Jersey Federation of Sportsmens' Clubs, various conservation and sportsmens' organizations, newspapers and magazines.

It is hoped that those who are interested in restoring our wildlife will also protest against further filling of marshes which are used by waterfowl and shorebirds. Write now to your U. S. Senators and to Congressmen from districts bordering the Delaware River.

CONTOUR STRIPPING AIDS WILDLIFE

In regions where winter snows produce a good part of the moisture needed for spring crops, farmers who left contour strips of vegetation standing in cultivated fields after harvest this fall probably will find woil moisture much greater next spring than in fields without vegetation.

The strips act like a snow fence to break the force of the wind and cause drifting. When the snow melts, the strips impede the flow of run-off water and force more of it to penetrate the soil where it can be stored for plant growth.

Farmers also are finding these buffer strips of vegetation a boon to wildlife because they furnish food and cover for game birds and animals during the winter months.
—Soil Conservation Service.

FOX HUNTING NOTES

(Continued from page 22)

sibility of other complicating factors, such as accidental contamination, to enter. On necropsy no hookworms were found in any of the dogs which had been in the treated pen.

The dogs in the untreated pen were fasted for 24 hours and given chlor-cyclohexane at a dose rate of 0.3 c.c. per kilogram (2.2 pounds) of body weight as an anthelmintic experiment. The feces passed during the three days following treatment were collected and washed through a series of screens of graduated mesh sizes, and the residue examined for hookworms. No hookworms were collected during this time. At the end of the 3-day period the dogs were destroyed for necropsy. According to the fecal examinations of the fourth and fifth weeks of the experiment, 3 of these dogs were passing hookworm ova. However, on necropsy, hookworms were recovered from only 2 of these 4 dogs. It is entirely possible that the third dog which showed ova in the feces and had no hookworms in the intestinal tract had a light infestation and that the hookworms were destroyed by the anthelmintic treatment, the fragments not being detected in the feces.

Summary and Conclusions—Eight dogs ranging from 8 months to 1 year were freed of hookworms, after which they were divided into 2 groups of 4 dogs each, one group being placed on ground treated with a saturated solution of sodium chloride at the rate of 0.107 gallon per square foot of soil and the other group being placed on ground not treated with this solution. The 2 plots of ground were similarly infected with hookworm larvae. At the end of 5 weeks, none of the dogs in the treated pen had developed hookworm infestation and none showed hookworms at necropsy, while 3 of the 4 dogs in the untreated pen passed hookworm ova in the feces and 2 of them had hookworms at necropsy. It may be concluded from this experiment that a saturated solution of sodium chloride destroyed the hookworm larvae on the soil of the treated pen and prevented hookworm infestation in the dogs maintained on such soil. Literature Cited—Law, Ronald G.—1932. Sodium chloride for the destruction of hookworm larvae. J. Parasitol., v. 19 (1), Sept., pp. 87-88."

SUMMARY STATEMENT OF BOUNTY ALLOWED ON NOXIOUS ANIMALS FOR THE MONTH OF FEBRUARY, 1938

Counties	Great-Horned Owls	Gray Foxes	Goshawks	Weasels	Amount
Adams	0	42	0	98	$ 217.
Allegheny	0	4	0	82	57.
Armstrong	1	46	0	223	297.
Beaver	0	24	0	39	115.
Bedford	0	47	1	98	239.
Berks	0	24	1	241	218.
Blair	0	40	0	150	235.
Bradford	12	31	0	130	213.
Bucks	0	40	1	180	252.
Butler	3	31	0	201	230.
Cambria	0	34	0	189	230.
Cameron	1	21	0	9	90.
Carbon	0	20	0	32	96.
Centre	1	106	1	146	501.
Chester	0	2	0	110	63.
Clarion	1	34	0	272	274.
Clearfield	2	64	1	217	370.
Clinton	1	31	0	26	139.
Columbia	0	23	0	99	141.
Crawford	8	6	0	277	178.
Cumberland	0	20	0	41	100.
Dauphin	0	27	0	82	149.
Delaware	0	0	0	20	10.
Elk	0	39	0	67	189.
Erie	8	2	0	217	132.
Fayette	0	98	0	154	469.
Forest	1	6	0	19	35.
Franklin	1	29	0	74	155.
Fulton	2	15	0	19	73.
Greene	3	4	0	7	25.
Huntingdon	0	80	0	144	392.
Indiana	1	48	0	224	306.
Jefferson	3	17	0	183	165.
Junlata	0	38	0	35	169.
Lackawanna	4	33	0	47	163.
Lancaster	0	19	0	151	151.
Lawrence	0	6	0	83	65.
Lebanon	0	19	0	40	96.
Lehigh	0	3	0	80	52.
Luzerne	0	49	0	140	266.
Lycoming	0	90	1	93	408.
McKean	0	18	0	39	91.
Mercer	3	15	0	250	191.
Mifflin	0	38	0	37	170.
Monroe	1	35	2	28	160.
Montgomery	1	12	1	105	104.
Montour	0	0	0	28	14.
Northampton	1	14	0	62	89.
Northumberland	2	15	1	129	130.
Perry	1	26	0	44	128.
Philadelphia	0	2	0	12	14.
Pike	2	91	2	11	377.
Potter	1	15	0	9	66.
Schuylkill	1	57	1	194	329.
Snyder	2	17	0	43	93.
Somerset	0	79	0	236	434.
Sullivan	0	10	1	41	62.
Susquehanna	3	98	0	87	441.
Tioga	0	17	0	29	82.
Union	1	12	1	22	63.
Venango	3	27	0	247	237.
Warren	3	8	1	135	107.
Washington	0	18	0	39	91.
Wayne	0	64	2	54	287.
Westmoreland	2	86	0	217	456.
Wyoming	2	32	0	62	163.
York	0	27	0	261	238.
Totals	82	2,145	18	7,160	$12,360.

Total number of claims—3,767

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OUR WILD NEIGHBORS

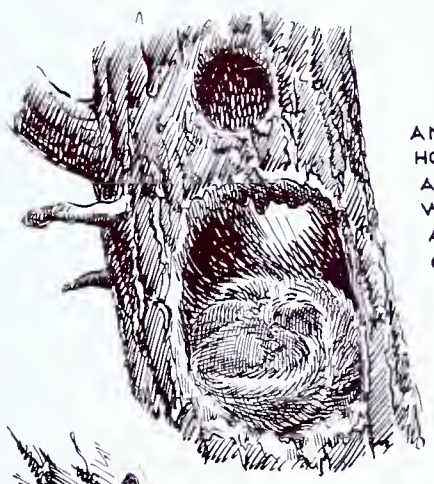
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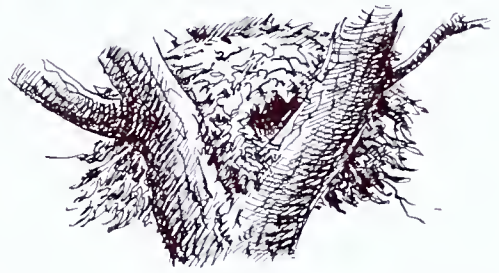
DAYBREAK AND DUSK ARE ITS PERIODS OF GREATEST ACTIVITY.



DURING THE FALL IT BURIES HUNDREDS OF NUTS SEPARATELY IN SHALLOW HOLES. THESE FORM ITS WINTER SUPPLY



AN OLD FLICKER HOLE FURNISHES AN EXCELLENT WINTER HOME ALTHOUGH EXTREME COLD IS NEEDED TO KEEP THE OCCUPANTS INSIDE.



THE YOUNG ARE USUALLY BORN IN THE SUMMER HOME WHICH RESEMBLES A COVERED CROW'S NEST WITH A SIDE ENTRANCE.



IT IS AN EXPERT AT DODGING AND HIDING FROM HAWKS AND GUNNERS.



THE FEATHERY TAIL ACTS AS A BALANCE WHEN RUNNING AND JUMPING, A BLANKET WHEN SLEEPING, AND A PARACHUTE IN CASE OF A FALL.

E.L.Poole

Wildlife Syndicate 1938

THE GREY SQUIRREL (Story on page 29)

Be Careful

Be careful of your fire, boys,
As through the woods you roam.
Remember that the birds and beasts,
In forest makes their home.

A careless match or cigarette,
Will cause an earthly hell
To birds and beasts that roam the woods,
The valleys, hills, and dell.

What an awful sight to meet the eye,
A mountain stripped of trees.
A blackened blotch upon the earth,
For every one to see.

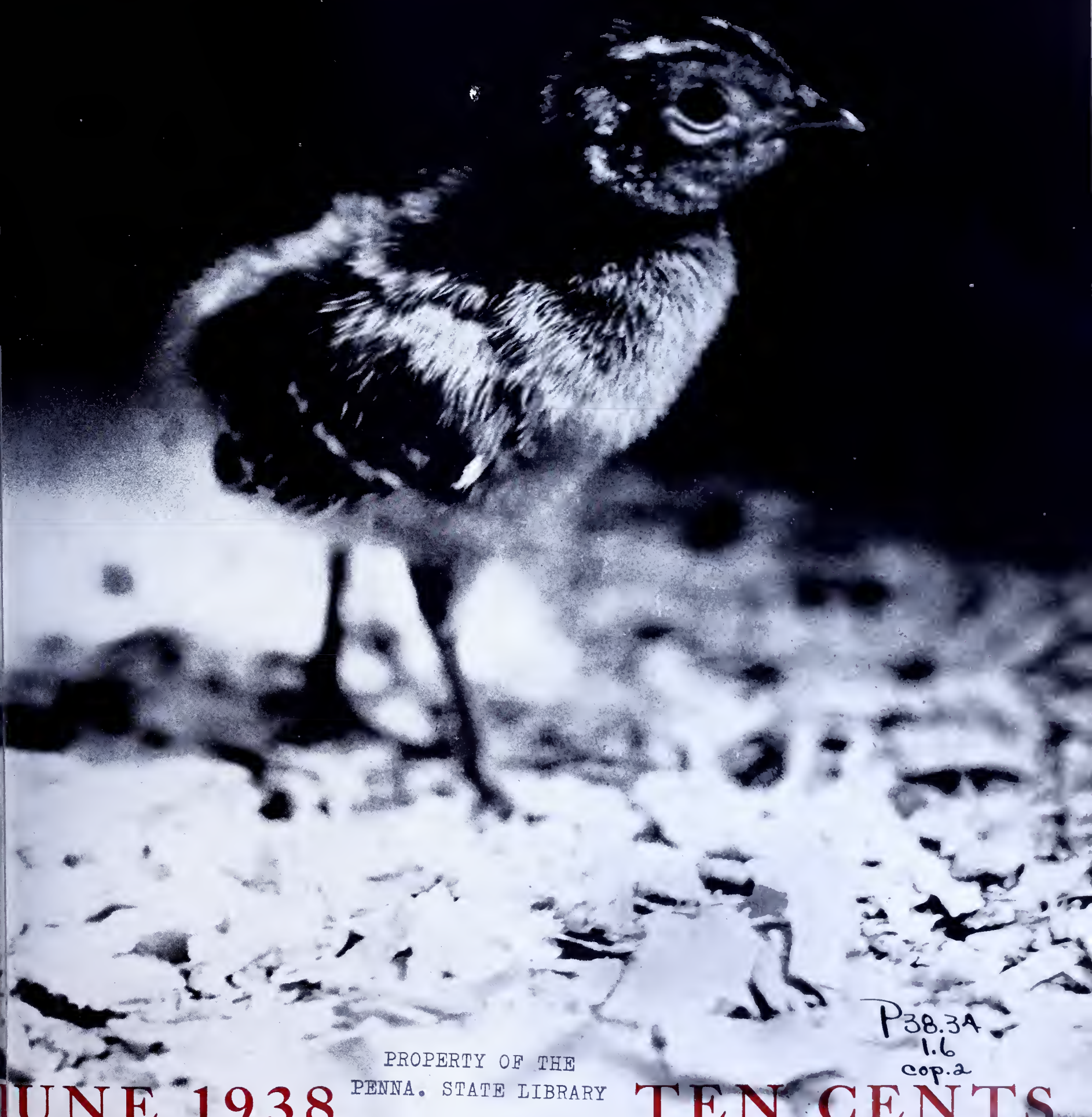
This damage done through carelessness,
Can never be repaid.
The loss of life to game and trees,
Must at your door be laid.

While fighting fire near Bradford,
Caused by an engine stack,
I carried a man who was overcome,
A half-mile upon my back.

So be careful in the woods, boys,
Leave not a single spark.
For some one might be there, boys,
Who might perish in the dark.

W. F. Peasley

PENNSYLVANIA
GAME NEWS



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JUNE 1938 TEN CENTS

PENNSYLVANIA GAME NEWS

Published monthly at 1117-1131 Wolfendale St., Pittsburgh, Pa., for Pennsylvania Game Commission, Harrisburg, Pa.
Executive and Editorial Offices, Commonwealth of Pennsylvania, Pennsylvania Game Commission, Harrisburg, Pa.

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Material for each issue should be submitted not later than the FIRST OF EACH PRECEDING MONTH.

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Entered as second class matter at the Post Office of Pittsburgh, Pa., under Act of March 3, 1879.

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Vol. IX, No. 3

EDITORIAL

June, 1938

POSITIVE ACTION ADVANCING

THE Pennsylvania Game Commission has long championed the theory that what wildlife restoration and management needs most is positive rather than negative action. It has long since discarded the all too prevalent idea that more and more restrictive legislation will do the trick.

One of Pennsylvania's first positive steps was the creation of a state-wide system of game refuges, inviolate havens where wild creatures may retreat when pursued. No State today boasts a more comprehensive system of such areas, surrounded by public hunting grounds.

The sportsmen of Pennsylvania now own 575,000 acres of State Game Lands, scattered throughout 53 counties, with 35,000 acres more under contract for purchase. These lands are being managed primarily to produce good hunting, and today the Game Commission has underway an extensive cover and food improvement program thereon in an attempt to guarantee a maximum annual crop of game.

For years the problem of getting landowners to cooperate in improving instead of injuring game habitats, and at the same time to assure more open hunting grounds in thickly populated farming regions, has given everybody much concern. Now Pennsylvania's new cooperative farm-game projects, with an aggregate acreage of 44,000 acres, provide a positive approach to this problem with definite benefits to both landowners and hunters. These projects will serve as demonstration areas, which should help to spread the idea throughout the State.

There is, however, grave doubt whether it ever will be possible for the Commission to enter into such close cooperative agreements with anything like a majority of our 190,000 farmers. The next job, therefore, is to find a way to spread the benefits of wildlife habitat improvement through the same channels which have been responsible for the destruction of wildlife habitats, especially the clean-farming craze.

Those advisors who contact the farmers regularly have, in a large measure, been responsible for this situation, especially where they were not wildlife conscious.

Now the Pennsylvania Game Commission has entered into a cooperative agreement with the U. S. Biological Survey and The Pennsylvania State College to maintain at State College a biological research and demonstration station, which will make available to County Agents, farmers, and sportsmen alike information through the application of which landowners may enjoy the benefits of an abundant crop of wildlife without interfering with farming. Hereafter the same channels will be used to bring about a restoration of wildlife habitats that were used to encourage their destruction. This will speed up positive action, and assure results.

As pointed out in the last issue of the GAME NEWS, the sportsmen themselves can help materially by applying the methods suggested in Mr. Morton's splendid article, the second installment of which appears in this issue. Let's all join hands in this campaign for positive action and assure good hunting for our 600,000 licensed hunters and their farmer friends every year.

PLUGGING THE LEAKS

THE automobile, Juggernaut of destruction, has again begun to take its annual toll of valuable wildlife. No one knows just how many beneficial wild creatures are sacrificed on the altar of man's speed and carelessness.

Admittedly the driver is not always to blame. Perhaps more often than not he tries to avoid such useless slaughter, but the confused animal or bird makes it difficult. But there are some individuals who delight in seeing how close they can come to any living thing on the highway. There are others who deliberately try to run over wild creatures. Many a fellow has been observed trying to beat a rabbit across the road, narrowly averting tragedy, not only for the creature, but for himself.

One cannot estimate the economic value of the creatures thus destroyed, but it runs into millions of dollars. Knowing this, the motor-loving public should do everything possible to make travel on the highways less hazardous not only for the poor dumb wild creatures which, blinded by headlights, do not know which way to turn, but for themselves.

Another menace which is annually taking a tremendous toll of beneficial wildlife, one which has been a thorn in the side of wildlife managers and sportsmen for years, is the stray half-wild, half-starved house cat. His numbers are legion, his appetite is great; consequently he depletes the ranks of our wild birds and animals more than any other agency, including Man himself. The half wild dog is another decimator of our wildlife which must be controlled.

When one considers the appalling loss of wildlife over thousands and thousands of miles of highways throughout this Commonwealth, when one tries to estimate the destruction caused by the vast army of four-footed destroyers and the other numerous agencies which combine to deplete the wildlife supply, one cannot help but appreciate how fortunate the citizens of Pennsylvania are in having, despite all the inroads made upon them, a greater diversification and abundance of wild creatures than is found anywhere else in the country. But we should all help to reduce these obvious wildlife leaks, mostly man-made.



**This frontispiece of dogwood is printed here by permission of Adolph Muller, former President of the Pennsylvania Game Commissio
It is one of the many beautiful illustrations from his book titled "Portraits of Dogwood."**

"THUNDER WINGS"

By N. R. CASILLO

Another interesting story by this popular writer of hunting and fishing tales."

QUITE accidentally I killed my first grouse when I was twelve years of age. Having been presented with my first hotgun, a light single, twelve gauge, I went happily off to the plands at the edge of town for the initial workout. Back in the ays when I proudly sported an ancient twenty-two rifle, a thick ine wood at the rear of one of the parks harbored numerous rouse that had on many an occasion startled me out of my kin. Now, however, armed with a shotgun, and with a pocket-ul of black powder shells, I sallied forth confident that I was ore than a match for those feathered blood tinglers.

It is needless for me to state what happened. The thundering oar of the rising birds paralyzed my faculties and unloosed my rigger finger. In a short time I was bleeding from severely ruised lips as a result of the terrific kick packed by that com-ination of light gun and black powder, and hadn't so much as tirred a single feather of those winged thunderbolts. Indeed, I vas so demoralized and kick-shy that once I reduced to a puff f feathers a chickadee that had but a moment before been ocundly singing on a limb at least four feet from a rising rouse. I had shot at the grouse, and the chickadee or what was eft of it floated off on the breeze.

Sneaking through a covert of young hemlocks I came upon n open glade in the forest. The ground was carpeted with atches of tundra moss and partridge berries. On the other side f the clearing not more than fifty feet distant, I spied a bird vidly feeding on the berries. That it was a grouse didn't pene-rate my credulity for a full minute. At last I raised my gun nd took deliberate aim at the unsuspicious bird. It went on feed-ng oblivious of the fate that threatened. Nearby a nuthatch hirped happily. A good fifteen seconds sped by and the gun only ank deeper into my shoulder. The grouse finally came up for ir, stretched his neck to an amazing length, looked about and hen made off with the usual thunder. The gun exploded and when he smoke cleared there was the grouse beating its life out on he ground. All that I had needed to touch me off was the ac-ustomed racket.

Some years later, at college, I discovered the rendezvous of a ood bunch of birds. It was on a nearby hill in a thicket of sumach ordering an old apple orchard. Through the flaming trees wound woodland path that was a favorite with a number of lovelorn ouples. Early one evening I was treading that flower bestrewn rail when perchance I glanced ahead. There in the middle of he right-of-way was the biggest cock grouse I have ever seen; o my incredulous eyes he looked as large as a turkey gobbler. Even as I looked he thundered off followed by what sounded like t least six other birds. They had been feasting on the apples hat covered the ground.

On the following day I hied myself to the spot with shotgun n hand prepared to do battle. I started down the hill through beautiful thicket of white birch, with the slanting rays of the un full in my face.

Presently I heard the clamor of some geese winging their way oward the nearby salt water estuary. To my unbounded amaze-nent, when nearly overhead the flock of great fowl deployed and egan to circle, at the same time losing considerable altitude. At his turn in events I cocked my gun, crouched against one of the rees and waited hopefully for further developments. But it took hat sagacious old gander that was the leader, only a few brief moments to round up his charges and once again go clanging eaward.

Sheepishly I bestirred myself and went on with the business at nand. The sun had descended nearly to the edge of the hills so hat its rays were more blinding than ever. Suddenly a roar mote the peaceful silence, and faithfully responding to that stim-ulus my trigger finger did its stuff as of yore. The habit I thought elegated to a bygone past was still with me. And what was more, I had not even seen the grouse, still, I retrieved the fluttering orm and found that a single pellet had passed through its head.

In my early grouse shooting days "expert" old timers urged the importance of getting in a quick shot. "Shoot and shoot



A Bag of Forest County Grouse

quickly," they urged, "be it from the hip, the shoulder or in-between. Shoot even if you don't see the bird." The ruffed grouse, they heartily agreed, has such a quick get-away that if one takes time to aim, then it is usually too late. They always concluded: "If you get one-third of the birds you shoot at, you're some shot."

I know now that I was a victim of the quick-shooting doctrine. Even when I restrained that almost irresistible urge to prematurely pull the trigger, my reactions were such as to cause me to absolutely forget everything that I had ever heard or learned about grouse shooting, and usually I missed. The habit had worn such a deep rut in my nerve pathway that I did not finally and completely throw it off until several years after the goose-grouse incident.

My final resort toward the complete eradication of the habit was by going through good grouse cover with an empty gun. After several forays I acquired steadiness, and best of all, for the first time I noted carefully, exactly how the grouse flushes. Later on I substituted for the empty double a pump gun containing two loaded shells and two or three duds between the loaded ones and the chamber. Those duds usually gave me plenty of time for rumination and observation after a bird popped out with its disconcerting roar.

Nine times out of ten a flushed grouse is not seen as soon as the hunter hears its whirring take-off. For a fraction of a second, or at least long enough to permit the gunner to compose himself, the bird is either hidden among the ground cover, or rising so rapidly as to present a very poor target. Hold fire for that fraction, presuming, of course, that you already have the gun in readiness, follow the bird with your gun and then let him have it. If a tree behind which the grouse can duck is imminent, then it is obvious that one must take his chances with a quick shot.

What may happen to some grouse hunters was graphically illustrated on a recent hunting trip up into Forest County. A casual friend whom we had met in one of the hunting camps in the Marienville district insisted upon joining our party, pleading that he would like to bag one of the elusive "critters."

(Continued on Page 30)



Plots of evergreens on hillsides assist in preventing soil erosion, provide income in the sale of Christmas trees and furnish excellent cover for wildlife.

WILDLIFE IN THE FARM PROGRAM

Simple Methods by Which Farmers and Sportsmen Can Improve Wildlife Habitats on Agricultural Lands—Part II

By JAMES N. MORTON

EDITOR'S NOTE: This is the second and concluding part of Mr. Morton's article on Wildlife in the Farm Program. Any suggestions or constructive criticisms will be appreciated by the author. The material appearing here will be incorporated with the preceeding instalment into a pamphlet for distributing to interested parties.

PRODUCING FOOD AND COVER BY PLANTING

Shrubs and Trees—The planting of clumps of trees, shrubs, and vines which provide cover and food in the form of berries, fruit and seeds should be carried on wherever this materials is lacking or where it cannot be produced by protection from domestic stock, or by protection from mowing. The various conifers, such as pine, spruce, hemlock and cedar, provide good winter and escape cover. To be most effective, some of the species planted for cover should form a tangle, or be stiff and thorny, so that in cases of necessity, pursued game can find a safe retreat from its pursuer. Clumps of Japanese rose, sweetbriar, or hawthorn near plantings of conifers insures good cover and provides some food for game.

Evergreen for Christmas Trees and Windbreaks—Many farmers have found it advantageous to plant plots of ½ acre or more to evergreens for Christmas trees. If material of good quality is planted it is usually possible to harvest a part of them after the fourth or fifth year and still leave enough for production of a timber crop. These plots of evergreens are also valuable to wildlife as shelter, especially during severe winter weather, and as escape cover. Additional information concerning evergreens is given in Farmer's Bulletin 1453, "Growing and Planting Coniferous Trees on the Farm," which can be obtained from the Department of Agriculture, Washington, D. C.

Strips of evergreens are also useful as windbreaks. They are us in sheltering buildings and orchards from wind. They add to t ornamental appearance and are useful to wildlife as cover. Win breaks can also be used to hide unsightly spots about building or on the farm, and likewise can be used as living snow fence Further information on planting for windbreaks can be secur from Farmer's Bulletin 1504, "The Windbreak as a Farm Asset."

A Variety of Species Necessary—In arranging for the plantin of areas, consideration must be given to a variety of species, s lected in such manner as to provide a constant food supply duri the entire year. In each clump that is planted there should be son shrubs or vines which produce summer food and other shrubs trees which provide food during the fall and winter. Some of t better ones to plant for summer food include the Virginia Creepe Juneberry, cherry, plum, elderberry, blackberry and mulberr Selections may be made from the following for planting for fa and winter food: bittersweet, hawthorn, sumac, winterberry, snow berry, persimmon, viburnum, hazelnut, oak, walnut, wild grap honeysuckle, barberry, mountain ash, crabapple, wahoo, dogwoo and Jananese rose. In addition to providing food and cover f game birds and animals, they also furnish protection and food f song and insectivorous birds.

Organized Sportsmen Will Assist—Many sportsmen's organiz tions throughout the State, for several years, have been plantin trees, shrubs and vines which provide game food and cover. An farmer who wishes such material planted on his farm, and wh does not have any source of supply, should contact one of t sportsmen's organizations in his county and request assistance

securing suitable material for planting. The Game Commission will furnish names and addresses of clubs upon written request.

Solid Foods Essential—In order that wildlife may have a sufficient amount of solid foods, patches should be planted to various cereals or arrangements made with farmers to leave food patches standing when their grains are harvested. Solid foods are particularly necessary for birds in maintaining their high body temperatures during severe weather.

There are a great many grains, grasses, legumes and weeds which furnish excellent solid food for game birds and animals. Some of those suitable for game food patches are field corn, kaffir, corn, buckwheat, sorghum, wheatland milo, sweet corn, broom corn, wheat, barley, flax, millets, oats, proso, vetch, sudan grass, lespedezia, sweet clover, sunflower, soy beans, cowpeas, and field peas. Climatic conditions in different parts of the State will govern the kinds to plant for farm game and wild turkeys in each section.

Various mixtures of seeds may be used in food patches. The purposes of such mixtures is to provide in a single plot a continuous supply of food from August until spring by selecting some plants which mature their seeds early, and others which mature seeds later and which remain on the stalks during the winter. Likewise, in a mixture some strong-stemmed plants must be provided as supports for the weaker-stemmed ones. This is necessary in order that part of the available food supply is held above the snow during the winter. It is always advisable when planting mixtures to consult the County Agricultural agents, or State Agriculture Experiment Station, since they are acquainted with local conditions and will know whether or not good results can be expected. The Pennsylvania Game Commission has worked out a mixture of seeds that is recommended for planting. Details can be secured by writing to the Pennsylvania Game Commission, Harrisburg, Pa.

Using Grains to Advantage—Kaffir corn with a sprinkling of field corn furnishes excellent game food. The planting of buckwheat or millet broadcast at the last cultivation of corn makes desirable game bird feed, while the corn furnishes both food and cover. Sudan grass in this mixture likewise is very beneficial in providing cover.

There is probably no practice of more benefit in feeding and holding game than that of arranging for a few rows of uncut corn in a field near a brushy fence row or along the edges of the woodlot. The corn stalks furnish cover, the food on them is always present when needed, and it remains in good condition until late in the winter.

In any game food planting program it is essential to have the **plots widely scattered.** Plots or strips of ⅛ to ½ acre scattered over an area are preferable to large ones. They should be rectangular in shape rather than square. Patches must be provided not more than two or three hundred feet from good natural cover, such as a woodlot, hedgerow, a brushy ditch bank, or arrangements made for travel lines provided with good cover, in order that it will be unnecessary for game to be exposed to predators and inclement weather in reaching the food.

Where special plots are set aside for game food it is a good plan to have the food patch large enough so that part of it may remain fallow each year while the other part is planted. It has been found advantageous to plant about ⅓ of the plot in good winter food, about ⅓ in legumes, and permit the remaining ⅓ to be in sod. These areas, of course, are then rotated from year to year. The planted areas provide nesting sites for birds and will usually provide some food in the form of weed seeds and volunteer grains.

Good Rabbit Foods—Where rabbits are abundant, plenty of corn, sorghum, barley, clover, vetch, rape, kale and oats should be planted to provide them with summer, fall and winter food.

Sweet clover planted around gravel pits, eroded gullies, stone quarries, along roadsides and other unused places furnish very good cover for game and food for rabbits. It also benefits the farmer by building up the soil and in preventing erosion.

In sections where there are wild turkeys, arrangements should be made for food patches for them near woodland or in small clearings which are available within wooded areas.

Volunteer foods, consisting of various weed seeds, can often be secured by having parts of abandoned fields plowed, or disced. Soils very often contain great numbers of seeds of various kinds which have lain dormant for years. They germinate when influenced by the sun and other conditions. Plowing, or discing, brings about favorable conditions for part of these weed seeds, especially ragweed which produces one of the best quail foods.

THE FARM WOODLOT

Most farms have within their boundary one or more wooded areas, or thickets. The farm woodlot is an important part of any upland game management program. As a rule, it contains along its edges shrubs and vines which produce food. There are usually, throughout the woodlot, nut producing trees and hollow trees which provide excellent conditions for squirrels. They, likewise, as a rule contain many suitable nesting grounds for birds and hiding places for rabbits.

Some of the fruit-bearing shrubs which furnish food for wildlife, and which should, wherever possible, be left uncut in woodlots and other spots where they do not seriously interfere with farming operations, are wild rose, thorn apple, dogwood, black haw, grape, crabapple, elderberry, sumac, blackberries, raspberries and huckleberries.

Grazing Should Be Controlled—Grazing of domestic stock in the woodlot by all means should be held down to the very minimum. A small amount of pasturing may not be particularly destructive, but the tendency is always toward over-grazing which eliminates the young growth so necessary to the perpetuation of the woodlot. Woodlots are very desirable in furnishing shade to pasturing livestock, but this can be provided without permitting the animals to destroy young growth over the whole area.

Grazing kills many of the trees, shrubs, briars, and vines which provide food and cover for wildlife. It likewise destroys many nests of birds and much valuable nesting ground which otherwise would remain unmolested.

In order to provide for wildlife it is, therefore, necessary to **eliminate grazing entirely in the woodlot or confine it to a small portion of the woods which has been fenced.** If this cannot conveniently or advantageously be done, comparatively large areas within the woods should be fenced against livestock and therefore given a chance to produce valuable and necessary growth for wildlife.

Greenbriars and Blackberries Provide Excellent Cover—Where there are very few berry-producing shrubs in the woodlot, clumps of these should be planted where they will receive sunlight. In many cases these can be transferred from places where they are unusually plentiful to the locality where there is an insufficient amount. Clumps of greenbriars or blackberries provide food and make excellent escape cover.

If the woodlot has a considerable quantity of large trees which have shaded out the undergrowth, some of the larger trees should be selected over the area when securing the winter's firewood or when getting fence posts. The increased sunlight which reaches the ground by removing some of these trees will promote the growth of the understory of plant life and thus increase the food and cover growth. In any cutting operations it is extremely important to **leave standing a number of hollow trees or den trees** to provide homes for squirrels and hole-nesting birds.

Grape Vines Are Useful—Grape vines should be permitted to remain unless they are actually damaging very valuable tree growth. In many cases grape vines, bittersweet, or Virginia Creeper are growing high on trees of little commercial importance. In



Ground cover and food for wildlife are deficient in over grazed wood lots. Parts of the wood lot should be fenced against pasturing stock.

WILDLIFE IN THE FARM PROGRAM



Food and cover to be of most benefit to wildlife should be located near each other.

such cases their value to wildlife will be greatly increased if the tree, but not the vines, is partly cut through, about two feet above the ground, then pushed over and the vines permitted to grow over the top of the felled tree.

Grapes are relished by many kinds of wildlife and their supply should be increased wherever possible. This can often be done by "cuttings" or by "layerings." The planting of grapevines cuttings around old tree tops, along fences and near brush piles requires relatively little work and increases the game food and cover supply results. The layering of grapevines and later removing the resulting rooted plants to other locations, such as stone walls, fences, brush piles, etc., is easy to carry on.

A number of woody plants, which provide game food and cover, can be propagated either by "hardwood cuttings" and by "layering."

Producing Food and Cover by Grapevine and Other Cuttings—When propagating by cuttings, the wood should be taken from the current or previous season's growth and should be cut in sections twelve to sixteen inches long with each section having at least three buds. Cuttings may be made in late fall or early spring when the wood is dormant. The cuttings should be tied in bundles of from 25 to 50, butts all one way, and buried bottom up in a trench and completely covered with sand or soil to a depth of 2 to 3 inches. They may also be kept over winter in a cool places such as a cellar by burying in moist sand or moss.

In the spring the cuttings are removed from the place where they are stored and planted about 3 or 4 inches apart in trenches with one bud above the ground. Cuttings are left in the trench until the following spring or fall, after which they are ready for planting in their permanent locations. Where the weather and soil conditions are favorable cuttings may be put in their permanent location without first planting in trenches. This is especially true of willow and poplar cuttings.

A few of the plants that produce game food and cover which can be propagated readily from cuttings are grape, coralberry, willow, bittersweet, Virginia Creeper, service berry, honeysuckle, wild rose and nightshade.

Producing Game Food and Cover by Layering Plants—When propagating by layering the top of the plant or a section of the stem is covered with soil. Being buried causes additional sprouts or plants which may then be cut from the parent plant and moved to another location, or if needed at its present location, permitted to remain and grow there.

Some of the plants that are easily propagated by layering are blackberry, raspberry, grape, bittersweet, hazelnut, and wild rose.

ARTIFICIAL EMERGENCY COVER

The value of cover as an aid to wildlife has been previously pointed out. Without cover, birds and animals are exposed to attacks by predators and are endangered during the winter by difficulties in finding sufficient shelter from the elements. The most satisfactory conditions for game can be secured through the provision for **natural cover**, such as trees, briars, shrubs, vines, grasses, and weeds, as was previously pointed out. There are, however, many areas useable by game which are now so lacking in suitable game habitat that a long time will be required to produce this by natural growth or development.

Temporary **artificial** cover can be provided on such areas quickly and without cost, except labor, if those interested in the welfare of game will build many temporary retreats and shelters, such as are outlined in several of the following paragraphs. Their locations are very important. They can be placed in pastures, overgrazed woodlots, abandoned fields, and other places where shelter is deficient. Where there is no possibility of protected travel lanes, the retreats should be placed close to each other. Where these are built by sportsmen or persons other than the landowner, consent should be obtained from the owner. It is important wherever possible to **cover over retreats with plenty of stones or brush** as an added protection from dogs. It has been found that it is impossible to get too much brushy cover over these artificial retreats.

Good Temporary Retreats—Discarded wagon beds, auto bodies, old sheet iron and other wornout material, if well covered with brush, can be made into good temporary retreats and suitable places under which to place feed for game if these artificial shelters are located advantageously.

Poles, logs or discarded fence rails, piled and spaced about five inches apart and heavily covered with brush, furnish excellent hiding places for rabbits and other game.

Grape arbors made in openings in the woods around which are planted grape vines, grape vine cuttings, bittersweet, greenbriar, or Virginia Creeper, furnish food and cover for wildlife after the arbor becomes covered. Locust posts should be used when available. Rough poles can be used on the sides and top. Posts should be about six feet long and placed in the ground two feet.

Stiff crooked brush, particularly oak branches, placed in small piles on grass sod makes very good bedding grounds for rabbits. It should be placed in a field or pasture with southern exposure, near a wood-lot or briar thicket.

Discarded wire or old bed springs laid on logs or stones and well covered with brush are used as retreats and winter feeding shelters by quail, rabbits and ringnecks. The log or stone supports should be spaced about four feet apart and be eight to ten feet long, and raised about six inches above the ground.

Discarded fence rails, poles, posts, etc., piled in various desirable places make good hiding places for rabbits if placed on logs laid crosswise so that the pile is raised about six inches above the ground. Brush piled over these rails will afford protection from dogs. Grapevines planted around the pile will increase the food supply for birds.

How Artificial Escape Cover Is Provided—Brush piles **with supporting logs or stones underneath** can be used to provide space for escape cover for rabbits, grouse, quail, and ringnecks. Cuttings of grapevines, or some other vine such as bittersweet or Virginia Creeper, set near the pile, will assist in furnishing food. Logs should be eight to ten feet long and spaced about four feet apart with plenty of cross poles to prevent brush from sagging to the ground. The logs should not be raised more than six inches above the ground; this will prevent dogs from getting underneath.

Discarded culvert pipe, hollow logs, or old tile laid in a brush or briar thicket and covered heavily with stones and brush makes good escape cover for rabbits. With sufficent brush covered over them they make ideal retreats to locate in old fields and pastures.

Two logs eight or ten feet long laid side by side about six inches apart and **well covered** with brush or stones, provide escape cover for rabbits or ringnecks.

Two rows or stones set on their sides with the flat ones laid crosswise, then a large mass of other stones or brush piled up over the whole tunnel, make a desirable escape cover for rabbits. A bend in the tunnel prevents hunters from driving the game out by poking sticks in the opening. This opening should be about four or five inches square and each section four or more feet long.

WINTER FEEDING OF WILDLIFE

Where an adequate supply of natural food is not available for game, or where deep snow renders the supply inaccessible, it is necessary to resort to artificial feeding during the winter months.

In many cases large losses result to food supplies intended for wildlife because of snow storms, which often follow the placing of feed.

In order to overcome these losses and to prevent the food from becoming covered with snow it is essential that it be placed under some form of shelter. Suitable natural cover, where it is available, should be used as a protection to the food supplies. Such cover includes evergreen thickets, brushy fence corners, and briar patches.

Where provision has not yet been made for good natural shelter under which to carry on feeding operations, artificially constructed shelters should be used. It is always desirable to place these as close as possible to some form of natural cover which furnishes added protection from predators.

Many valuable suggestions for the building of shelters and for feeding of wildlife during winter are contained in Bulletin No. 11, "More Food for Upland Game," a copy of which can be secured without cost from the Pennsylvania Game Commission, Harrisburg, Pa.

REFUGE OR SANCTUARY AREAS

Sanctuary Areas Save Breeding Stock—Sportsmen in many parts of the State have made arrangements with landowners whereby numerous small sanctuary or retreat areas are set aside for the benefit of wildlife. No hunting whatever is permitted in such areas and, consequently, they provide a haven wherein pursued wildlife may escape heavy gun pressure. By carefully selecting these retreat areas sufficient game is held over for the next year's breeding.

The principle is the same as the Game Commission's refuge system which has proven so successful in the large forest areas, and more recently in the newly adopted program effective in a few farm-game counties in two of the more thickly populated regions of the State.

These sanctuaries need not be large. Areas of a few acres (2 to 25 each) in particularly desirable locations for game birds and animals (the place to which they invariably go when pursued) will save annually enough seed stock to insure a continued supply of game in the adjacent territory. These protected areas likewise make favorable locations in which to feed during the wintertime, and in which available stock from game farms can be placed.

A great many more of these small sanctuaries should be established and maintained by sportsmen in their favorite hunting territory. Of course cooperation of the landowner is necessary in setting aside these areas for the benefit of wildlife.

How Sanctuary Areas Are Established and Marked—The sanctuaries, to be effective, must be placed in the natural habitat for the kinds of game to be protected, such as in farm woodlots, briar thickets, marshy areas, or ravines, with plenty of food and cover. They should be marked by a brushed line four to six feet wide and surrounded by one strand of No. 9 galvanized wire, placed about waist high.

Printed posters should be placed around the wire, close enough that one poster may be seen from the other. The wording which has proven effective is outlined below. It will be noted that the owner must agree to prohibit trespassing on that part of the farm set aside as a sanctuary or retreat. The remainder of the farm is open to public hunting. The purpose of the "No Trespassing" provision is to give legal status to the retreat area. Prosecutions for unlawful entry can be made under the "No Trespass" act when the poster is signed by the proper person.

WILDLIFE SANCTUARY
NO HUNTING
ALLOWED

This Retreat is Provided so That

Wildlife May Have a Place to Escape and Breed in Safety Under Natural Conditions

HELP US DEVELOP AND PROTECT IT

(Here Print the Name of the Sponsoring Organization)

PRIVATE PROPERTY
NO TRESPASSING

Trespassing on This Private Property for the Purpose of Hunting is Forbidden Under Authority Contained in the Act of April 14, 1905, P.L. 169, as manded.

Signed.....
Owner of Property

CATS AND DOGS MUST BE CONTROLLED

Cats and dogs are valuable in any farming community, but if not properly controlled they can be classed among the worst menaces of wildlife.

Cats will destroy eggs of song and game birds prior to hatching. They will kill young song birds in the nest. They will eat young rabbits as well as baby quail and ringneck pheasants. **The farmer who wishes to increase the number of game and insect-eating birds on his farm, should not keep more cats than absolutely needed and these should be kept properly controlled.**

Farm cats should be locked in the barn or corncrib at night where there is no chance of their doing harm to wildlife, and where they may do some good in catching mice and rats. If allowed freedom at night, they roam over the countryside destroying song birds and disturbing or killing coveys of game birds.

Some persons, especially the town people, make a practise of carrying unwanted cats into the country and dumping them along the roads or in the farm yards instead of humanely killing them. Realizing that such practices compel the cats to make a living off the country and thereby constitute a menace to wildlife, the Pennsylvania Legislature in 1937 provided that a penalty of twenty-five dollars ($25.00) should be imposed upon anyone who releases a cat in the country to shift for itself. Stray and unwanted cats should always be killed.

Dogs are not as destructive as cats, but they should not be permitted to run at large, especially during the nesting and breeding seasons. At such times they naturally do a considerable amount of damage and should be kept tied. At other seasons they should not be allowed to roam the fields unless under the control of a competent person.

CONCLUSION

Farmers and sportsmen can be mutually helpful to each other and by cooperation provide a more favorable habitat in any section for wildlife. The farmer should remember that only a small percentage of those who hunt will damage his property. He should always permit those who respectfully request permission the right to hunt. By permitting the ones who come to the house and ask permission he is enlisting help in protecting his property from the very few who might do wrong.

A good sportsman is always on friendly terms with the farmer. As a means of cementing this friendship, he should visit the landowner in his favorite hunting territory occasionally and give every possible assistance to the farmer in wildlife food and cover development on his farm. This will show an interest in game other than shooting it. The only contact many hunters ever have with landowners is when they tramp over the fields with guns on their shoulders and with their dogs ranging the fields. It would be a splendid thing if the sportsman would visit his various hunting spots during other seasons of the year and do his bit to increase and perpetuate wildlife. It must also be remembered that in these days of intensive development, clean farming methods, good roads, automobiles, more leisure time, and an ever-increasing number of hunters, game must have some attention during the entire year. It cannot be left to shift for itself. It must not be forgotten from one hunting season to another.

As was previously pointed out, one of the first considerations for wildlife should be provision for good homes and plenty to eat. The Pennsylvania Game Commission is doing all the development work

(Continued on Page 32)



A border of game food producing shrubs and vines are usually found along ungrazed wood lots.



A PACIFIST LOOKS AT RIFLE SHOOTING

By HAROLD D. C. KINNEY

A safe type of firing line, built for camp use.

"IS that a laugh! To find you of all people, putting in a range and teaching your boys by the hundred to be better rifle shots! Only last year in college you were a raving Pacifist. What changed your mind so suddenly?"

My college room-mate had dropped in my office at the Y.M.C.A. while driving through town on his vacation. He grinned at my obvious embarrassment. "I don't think I have changed in my thinking," I replied. "On the surface, the two propositions don't seem to jibe, I'll admit; but I'm still a Pacifist as well as an Instructor in Junior Rifle Marksmanship. Somehow, these two facts do not seem to conflict with each other. Still, I'm open to conviction on both matters, and both are experiments. I'm looking for facts all the time."

We were used to each other's ideas and mental processes from many bull sessions at college, and around the dinner table that evening had no hesitancy about getting down to rock bottom in our conversation. We were more interested in what the other fellow had been thinking during his first year out of college, than what he had been doing.

"You will remember," I opened, "that a number of us were sick of the sham and hypocrisy of many people who call themselves 'Christians': and we insisted we were going to try to live out a practical type of Christianity when we got out of college. Some of us carried this over into our attitudes on international relations, inasmuch as we had come to know so intimately and to admire the 'Y' students and secretaries from other countries. I attended, too, the World Conference at Toronto on Boys' Work, and made many friends—brought back and entertained here, in fact, two boys from Esthonia and Czecho-slovakia, as well as a German 'Y' secretary on the World Committee at Geneva. I would not for anything take up arms against fellows like they were—unless their armies landed on our shores and attacked us, which is preposterous.

"We agreed that most wars are fought over lands and mineral deposits and oil wells and because of race hatreds. The Christian attitude is that if we acted decently toward other races and nations, we would have their goodwill and friendship rather than their enmity. I know some very fine Japanese, for instance, and I feel that we have not treated their race as a true Christian would. So you see, I'm still one of those odious Pacifists."

"Who teaches boys to be good shots—just in case his idealism doesn't work out," said my erstwhile room-mate.

Does Rifle Practice Teach Wrong Attitudes?

"I have a come-back for you on that, because the seeming discrepancy has caused me to do no end of thinking and observing, not to mention worrying. You see, I started up the range because I found that in checking with boys the things they wanted most to do, of all the hobbies we talked of starting, rifle shooting was 'first and foremost.' Every kid wants to shoot—I've never seen one who didn't. So we put in a small amount of cheap equipment and gave it a try, along with archery, model airplanes, photographic dark-room work, radio construction, and the like.

"Riflery, as we called it for short, ran off with the show. The pressure of fellows wanting to take the course and qualify for the keen medals the National Rifle Association offer, meant putting in new equipment, getting more accurate rifles and training new leaders to handle the daily classes. It meant that when camp season rolled around, all the fellows wanted to know if there would be a range there, and we had to put one in—it was the most popular activity of all the crafts and hobbies there.

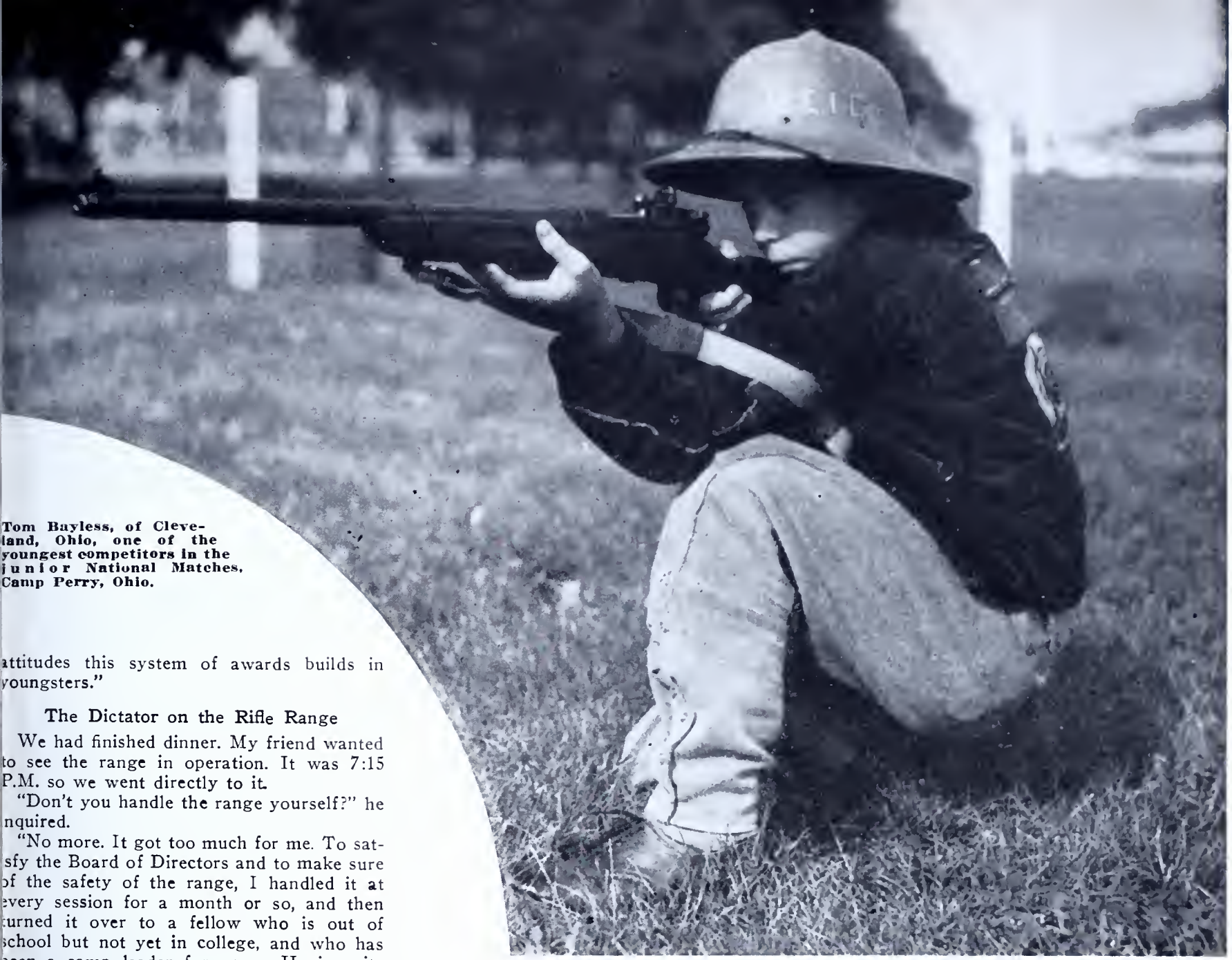
"Through it all—I kept watching for ATTITUDES in boys. Would it make them talk of war? Would they think of this practice in terms of preparation to kill people? Would they look forward to an opportunity to get into a fight with another nation? Over two hundred boys and, at camp, girls too, learned how to shoot on our ranges. In that time I had not been able to discover more than one incident that would worry me. An older high school boy, of much below-par character, once exclaimed, as he got into the prone position, 'Boy, I wish there was a row of German heads sticking up down there—I feel like I could shoot the whites of their eyes out today.' This was disturbing, but did offer a hot-spot for discussion at our next Hi-Y club meeting, and the good it did to have it happen, and become an issue, overbalanced the harm it may have done."

The Use of Medals Is Not Harmful

"Perhaps you are right," said my friend "there is so much fun and thrill to shooting at targets that one does not need to ascribe war hatreds and killing desires to kids to understand their interest in the sport. But I see another slip one would not expect you to make on this thing. Remember the big fuss over bribing kids with rewards to get them to do things? We agreed in sociology class not to promote activities by offering medals and prizes to keep up interest in an activity—the intrinsic value in an activity was the end or goal, not a prize for a bribe to plug away for. So squirm out of that if you can!"

"Easy," I replied confidently. "That had me down for a count of eight before I could analyze the mess it made in my thinking. I'm back on my feet on that score now, though. You see, when we tried to start a ping pong tourney, everybody asked, 'What's in it for the winner?' and when we said, 'The satisfaction of being the best player in the "Y"—nothing more, no prizes,' we had a heck of a time getting up a match. Why play a round of tournament games in ping pong unless there was some prize to work for? A lot of the best players wouldn't bother to come out for it, and it fell flat.

"With rifle shooting it is different. They want to shoot for the fun of it; the activity has satisfactions in itself; there is no ulterior motive; no bribe has to be offered to induce them to practice as long as we will let them. There is then no strong motive to practice hard **just to win the medals.** The medals can be purchased after qualifying for them; some do, some don't. It's a matter of recognizing skill, of acknowledging proficiency. I don't think a sociologist would object at all to the



Tom Bayless, of Cleveland, Ohio, one of the youngest competitors in the junior National Matches, Camp Perry, Ohio.

attitudes this system of awards builds in youngsters."

The Dictator on the Rifle Range

We had finished dinner. My friend wanted to see the range in operation. It was 7:15 P.M. so we went directly to it.

"Don't you handle the range yourself?" he inquired.

"No more. It got too much for me. To satisfy the Board of Directors and to make sure of the safety of the range, I handled it at every session for a month or so, and then turned it over to a fellow who is out of school but not yet in college, and who has been a camp leader for years. He is quite responsible."

"But why not use a man in the Reserve Corps or National Guard?"

"Oh, I wanted to steer clear of that connection, for one thing. Mainly though, I didn't want a man who was 'crazy about' shooting. To turn out the most expert rifle shots they can develop is their goal. It is not my goal in this work. The by-products in personality development are the reasons I promote this hobby. But here we are at the range."

We were in the basement of the Y.M.C.A. in a room parallel to the swimming pool. It started out as a bowling alley, then became a horse shoe court, next a golf practice course, and finally when I arrived on the scene, a rifle range and archery course combined. There were a dozen or so older boys present now, five prone on the mats, firing at will. All lights were out except at the backstop. The Instructor stood at one side in back of the boys shooting. He let his eyes rove from the targets to the shooters and back to the spectators—he knew what was happening all the time.

"Looks good on the surface," my friend commented in a whisper. "I should think that it would be very dangerous with smaller boys than these, though." Just then a couple of new boys came into the room and stood behind those shooting. They were talking loudly and laughing; one of them made a cute remark to a boy shooting. Immediately the Instructor turned on the lights and stopped the shooting, then addressed these new boys. "I'm sorry to have to ask you to refrain from laughing and talking to boys while they are shooting. It is never allowed on the range. These fellows are trying to make every single shot the best it can be, and they must concentrate on their aiming, squeezing the trigger just right, breathing and all that. Did you notice too that the fellow you spoke to turned around to say something to you? He had a loaded rifle, his finger was still on the trigger, yet his mind completely left the rifle to give attention to you. A slight jar or accidental bump by another fellow next to him might mean the rifle would be fired off—and hit whatever it might be pointing to; in this case the gallery of the swimming pool. And that bullet has force enough to carry three-quarters of a mile. So don't be offended when I tell you fellows to be quiet here or leave the range altogether."

After firing was once more resumed, a younger boy came bustling into the room with his father. The boy had wanted to shoot before, but was told he must have the written consent of his parents. To save another lecture I took them and my friend out of the room to talk. "Dad wouldn't sign the slip to let me shoot because he was afraid of the danger on the range, so I brought him down to convince him it is safe," the boy got out in one breath. I assured the father we appreciated his interest in giving us a chance to show him the range in operation, talked to him about the safety rules we enforced, and invited him in to watch what took place.

Among other things he was shown how the boys had to stay away from the rifles while those who had just fired went down to inspect their targets; how boys who got through before the others, remained still or got up and came behind the mats and did not try to edge down toward the backstop until the Instructor gave permission. He also observed the emphasis on not cocking the rifles until the boys were in position and ready to fire. Later he was allowed to shoot awhile under the rules the boys had to observe. In the end he admitted, willingly, he didn't see the slightest possible danger, and readily consented to his son taking the course of training required before he would be allowed to shoot on the range.

"Every boy is told beforehand, when learning how to handle a rifle and in studying the safety rules, that the Instructor on the range is virtually a dictator; what he says must be obeyed implicitly. There are no second chances. Once a boy fails to observe one of the safety rules, he can expect permanent exclusion from the range—immediately."

Character Values of Rifle Shooting

When the class was over, my chum tried out the range and became as fascinated with the sport as I. "Say, this IS fun!" he exclaimed. "I'm almost sold on trying to get

(Continued on Page 29)

EXPENDITURES FOR STATE GAME LANDS AND REFUGES
Two Fiscal Years—June 1, 1935 to May 31, 1937

EXPENDITURE CLASSIFICATION	FISCAL YEARS: June 1, 1935 to May 31, 1936	FISCAL YEARS: June 1, 1936 to May 31, 1937	Percentages of Total Expenditures Comparable	Percentages for the Previous Five Year Period
CAPITAL EXPENDITURES				
ACQUISITION OF STATE GAME LANDS:				
Consideration paid for game lands	$146,660.45§ (41,984.4 Acres)	$174,691.95§ (45,036.8 Acres)	39.1	52.1
Title abstracting and deed conveyancing	27,728.90†	30,617.87†	7.1	7.2
Boundary line surveys and certain mapping	15,175,73†	29,812.63‡	5.5	5.7
CAPITAL IMPROVEMENTS ON GAME LANDS AND REFUGES:				
Construction of buildings comprising refuge keepers headquarters:				
Remodelling at Refuge No. 505	1,347.35	.....		
Remodelling on Game Lands No. 14	652.00	.....		
New buildings on Game Lands No. 47	1,476.82	5,521.42		
Beginning new buildings on Game Lands No. 44	.....	1,119.20	3.2	1.4
New headquarters for Primary Refuge No. 507	.....	7,311.00		
Beginning headquarters and museum at Pymatuning	.....	2,080.60		
Miscellaneous buildings	1,072.85*	5,497.41*		
Construction of dam on Game Lands No. 56	1,425.86	1,668.89	0.3	.....
TOTAL CAPITAL EXPENDITURES	$195,539.96	$258,320.97	55.2	66.4
OPERATING EXPENDITURES				
DEVELOPMNT AND MANAGEMENT OF STATE GAME LANDS AND PRIMARY REFUGES:				
Salaries and wages for refuge keepers, etc.	$ 41,566.25*	$ 51,760.35*	11.3	9.6
Travel expenses for refuge keepers, etc	17,809.94*	24,910.52*	5.2	3.0
Fixed charges on game lands in lieu of taxes	23,104.66	24,854.13	5.8	3.8
Maintenance of refuge keepers headquarters	3,659.89	4,067.18	0.9	2.1
Brushing boundary lines of game lands and primary refuges	9,039.05¶	19,132.15¶	3.4	2.0
Maintenance of roads on game lands	1,379.70¶	3,439.02¶	0.6	1.0
Establishing new primary refuges and turkey propagation areas	3,173.20¶	3,304.72¶	0.8	0.7
Game food and cover development	4,688.18¶	14,144.05¶	2.3	0.1
Materials and supplies including tools	1,585.29*	12,006.83*	1.6	1.0
Equipment and machinery	1,470.49	753.96	1.1	0.5
Motor Equipment, tractor and maintenance	339.68*	6,049.69*		
Food and Forage	1,210.24*	1,606.91*	0.3	0.5
Legal services	552.53	.....	1.1	0.9
Miscellaneous expenditures	3,812.62*	4,182.98*		
TOTAL OPERATING COST OF THE PRIMARY SYSTEM INCLUDING GAME LANDS	$113,391.72	$170,212.49	34.4	25.2
ESTABLISHMENT AND MAINTENANCE OF AUXILIARY REFUGE PROJECTS:				
General Classification	$ 2,376.66	$ 2,738.21	.....	.....
Farm-Game Classification	.....	6,636.79	.....	.....
TOTAL FOR AUXILIARY PROJECTS	$ 2,376.66	$ 9,375.00	1.4	0.9
ADMINISTRATION, TECHNICAL SERVICES, DRAFTING ROOM AND OFFICE EXPENSES:				
Salaries and wages	$ 26,344.09**	$ 27,556.91**	6.6	5.8
Travel expenses	2,327.21**	3,623.91**	0.7	0.5
Office supplies, posters, printing, advertising, etc.	1,835.83	2,606.04		
Office equipment, furniture, etc	646.36	737.89		
Telephone, telegraph, postage, express, etc.	402.36	312.25	1.7	1.2
Motor equipment and maintenance	1,588.95	622.43		
Auto insurance, bonds, etc	200.00	1,529.55		
Rent of real estate	2,193.00	875.83		
TOTAL	$ 35,537.80	$ 37,864.81	9.0	7.5
GRAND TOTAL OF ALL EXPENDITURES	$346,846.14§	$475,773.27§	100.0	100.0

EXPLANATION:
† Includes salaries and travel expenses for personnel assigned to these two functions.
‡ Includes mapping of areas purchased.
* Includes proportional part of expense of the game commission training school.
** Wherever salaries and expenses could readily be charged against particular functions. This has been done and therefore are not herein included.
¶ In addition to this a great deal of such work was accomplished by Federal Relief Agencies under the supervision of Game Commission officers.
§ These figures do not exactly correspond to those published for the Department as a whole because land settlements pending at the end of a fiscal year, for which settlement checks had been secured from the State Treasurer, are not herein included.

EXPENDITURES FOR STATE GAME LANDS AND REFUGES

TWO FISCAL YEARS— JUNE 1, 1935 to MAY 31, 1937

Reviewed by W. Gard. Conklin

THE accumulation of 75c from each resident hunting license fee annually amounts to a little more than $400,000. This so-called "75c fund" was created by the Legislature in 1927, and is earmarked for the purchase of game lands, the creation of game refuges, and the administration, development, and management of the system. It has been budgeted annually for the various functions of the Bureau of Refuges and Lands.

This money has permitted the Game Commission greatly to expand the sportsmen's system of public hunting grounds and game refuges, and to manage and develop them to provide much better hunting than would otherwise have been possible. Accomplishments during the ten years it has been in existence, we believe, have amply justified the creation of the fund.

Sportsmen are, of course, interested in knowing how the 75c fund is expended, and it has been the intention to inform them through the medium of the GAME NEWS, as well as in the Commission's Biennial Reports. The last statement in the GAME NEWS appeared in the May, 1936, issue, and covered a period of five fiscal years, that is from June 1, 1930 to May 31, 1935. Due to pressure of other matters publishing of a statement for the fiscal year, June 1, 1935 to May 31, 1936, was omitted. Now a statement including two fiscal years, June 1, 1935 to May 31, 1937, is available. For obvious reasons a fully detailed statement can not be printed in the GAME NEWS, so a concise statement has been prepared and appears on this page. It is comprehensive and as detailed as space permits. Attention is likewise invited to the "pie chart" on page 11, which tells the story diagrammatically.

During the two-year period covered by this statement of expenditures, title for 87,021 acres of State Game Lands was conveyed to the Commission, which brought the aggregate area of State Game Lands to 552,443 acres as of May 31, 1937. This acreage represented 111 separate areas distributed through 52 of the 67 counties of the State.

The actual price paid for the 552,443 acres

acquired between 1920 and 1937 amounted to $1,996,061, not including any of the customary acquisition expenses as for title and survey work. A very conservative estimate of the value of these lands on May 31, 1937, was $2,576,266. Of course, their value to sportsmen is far in excess of that figure, for no attempt is made to estimate and include therein their recreational and game values. Nor does it include any improvements placed on the lands, such as buildings, dams, etc.

In addition to expanding the State Game Land acreage during the two fiscal years covered by the accompanying statement of expenditures and pie chart, many new refuges were established and the Cooperative Farm-Game Program came into existence. Several Refuge Keepers were added to the force and the construction of six headquarters for Refuge Keepers was either started or completed. The Pymatuning Waterfowl Refuge was established, and the construction of a Museum started. Two Game Land Technicians were employed, and noteworthy headway was made in developing a better habitat for game on lands owned and leased by the Commission.

The estimated value of buildings comprising Refuge Keepers headquarters, some of which are located on State Forests, was $162,975 as of May 31, 1937, and is considered a very conservative valuation.

By reference to the statement of expenditures, it will be noted that $321,352.40 was paid for 87,021 acres of State Game Lands, which is 39.1% of the total expenditures for the two-year period. During the previous five-year period 52.1% of expenditures was paid for lands.

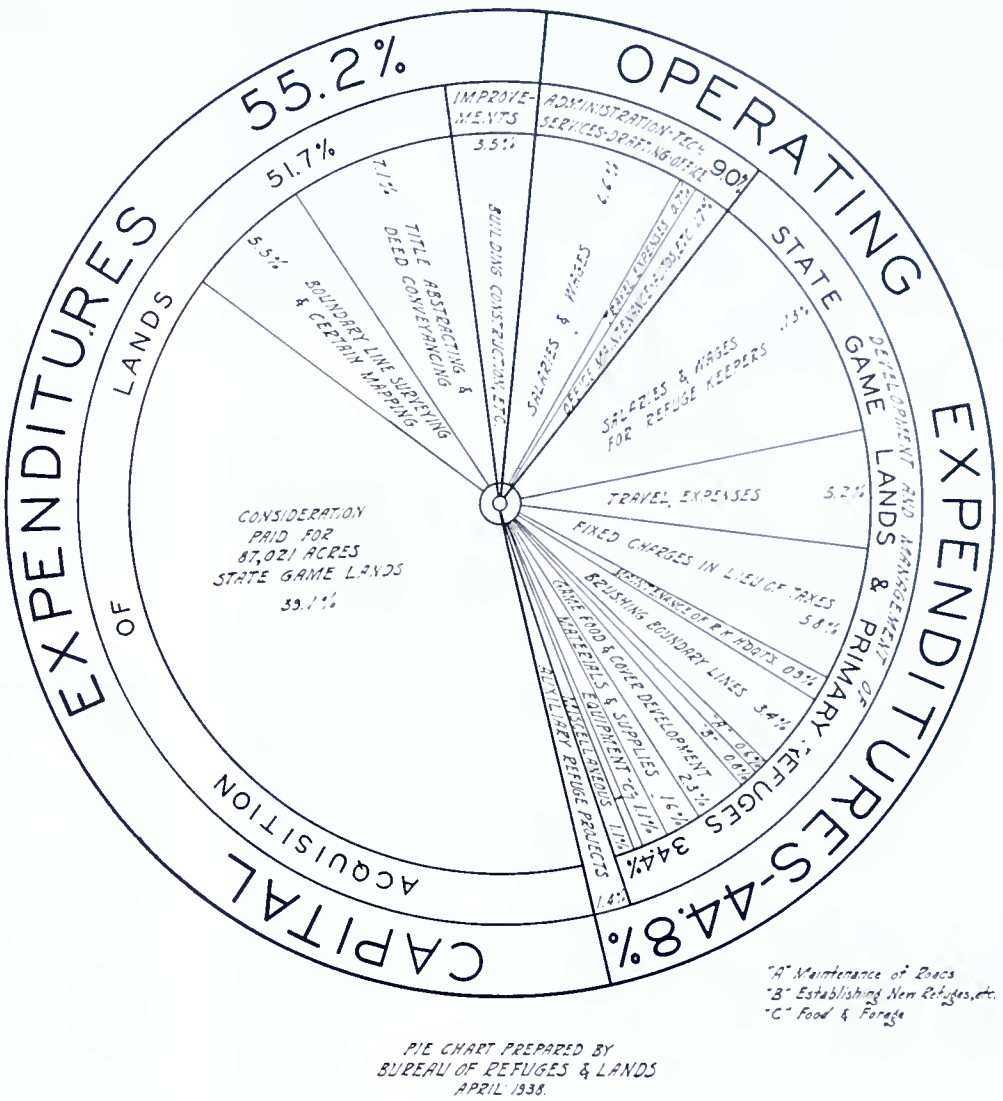
Expenditures for title abstracting and conveyancing during the two-year period amounted to $58,346.77, and for surveying boundary lines and certain mapping $44,988.36. These combined expenditures are 12.6% of all expenditures. For the previous five-year period they were 12.9% of all expenditures.

Attention is invited to the fact that for the five-year period June 1, 1930 to May 31, 1935, exactly 65% of the expenditures applied to the land purchase program, whereas during the next two years expenditures for this program were reduced to 51.7%. This decrease is to be expected since operating costs will naturally become greater as land holdings increase.

Expenditures for lands, as well as for new buildings and certain other construction projects, constitute a capital investment. It will be noted that 3.5% of expenditures for the two-year period were for new buildings and a dam, and that, therefore, 55.2% of all expenditures were applied to capital. During the previous five-year period this amounted to 66.4%.

Operating costs for State Game Lands and Primary Refuges amounted to $283,604.21 for the two-year period, or 34.4% of the total. This is an increase over the previous five-year period of 9.2%, and results largely from more intensive habitat improvement program on game lands to provide for a larger game population. In this connection sportsmen are reminded that a large proportion of habitat improvement and certain other activities were conducted with relief labor, which cost is not reflected in the accompanying

PROPORTIONAL EXPENDITURES
FOR
STATE GAME LANDS & REFUGES
TWO FISCAL YEARS-JUNE 1,1935 TO MAY 31,1937



PIE CHART PREPARED BY
BUREAU OF REFUGES & LANDS
APRIL 1938.

statement of expenditures. Such help may be discontinued at any time and when that occurs, if habitat improvement activities are to be continued on as large a scale as warranted, funds for the acquisition of lands will be still further curtailed unless additional funds are provided in some manner.

Expenditures for administration, technical services, drafting room and office expenses for the two-year period amounted to $73,402.61, or 9% of the total. Such services are frequently considered "overhead," although most of the employees represented, with the exception of stenographers, devoted considerable time in promoting the various functions of the Bureau in the field. Salaries constituted the largest item of expenses, i.e., $53,901.00 for the two years, or an average of $29,950.50 per year. This included the salaries of the Director of Refuges and Lands, two Assistant Directors in charge respectively of Management and Acquisition, two Game Land Technicians, four stenographers and clerks, a Land Engineer, and three draftsmen.

The annual investment of a reasonable proportion of the sportsmen's money in lands is sound business policy. Game Land holdings on May 31, 1937, as previously pointed out, were valued at $2,576,266. By the time this article appears in print at least $100,000 will have been added through the acquisition of lands at that time under contract for purchase. Dividends collected annually from the investment are in the form of more open hunting territory and better shooting resulting from improvements to habitat. The acquisition program required 65% of expenditures over the five-year period between 1930 and 1935. It tapered off to 41.7% for the two-year period 1935-1937, and will of necessity continue tapering off. The time may soon arrive when operating costs will require practically all of the 75c fund. However, it would be a mighty fine thing for the sportsmen of this State to own a total of a million acres.

Sportsmen are invited to visit the bureau offices in Harrisburg where more detailed annual statements of expenditures can be seen and digested. The books are open to those who seek more knowledge.



For each of two years the den at I-D-10 was the home of a litter of young skunks.

FOOD TAKEN BY

Mephitis M. Nigra

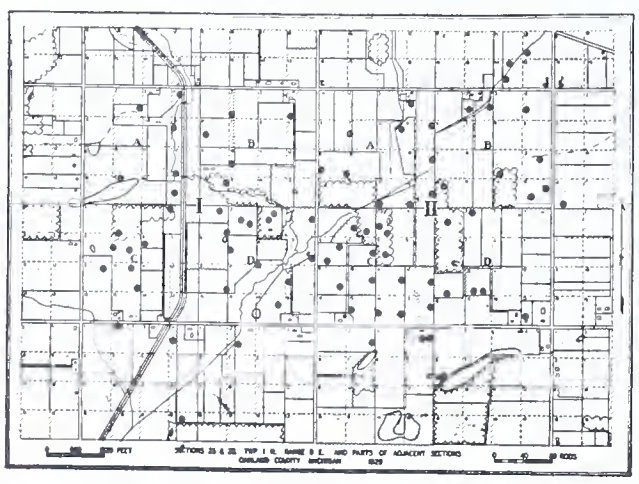
By PROF. H. M. WIGHT
School of Forestry and Conservation
University of Michigan

SO much has been written about skunks as bird killers and egg eaters that a complete review of the literature is impracticable. In order of their appearance, Dearborn, in 1932, working in Michigan, found 2.35 per cent of the bulk of the contents of 1,700 skunk stomachs and droppings to be bird material and .11 per cent bird eggs. Hamilton, in 1936, working in New York, found that in 1,607 fall and winter samples 1.9 per cent by bulk consisted of bird material, and in 600 spring and summer samples, 1.46 per cent was bird material. Allen, in 1937, reporting his studies on the Kellogg Bird Sanctuary near Battle Creek, Michigan, intelligently discusses the relation of skunks to birds and their nests. In the present work, the data for which were gathered during the spring and summer of 1929 and 1930 in Michigan, it was found that bird material, mostly feathers, averaged 5.8 per cent of the total substance recovered from the 302 samples analyzed.

In 1928, an intensive investigation of wildlife inter-relations was initiated by the School of Forestry and Conservation, University of Michigan,* on a tract of land in Novi Township, Oakland County, Michigan. This investigation has become known as the Northville Project. Among the individual approaches to the solution of the wildlife inter-relations was to become as intimately acquainted as possible with each skunk den and its occupants. Naturally, with such an approach, no trapping was done until the last month of the investigation. Therefore, no banding was attempted, and no artificial feeding was permitted. Each den was numbered and indicated on the field map as soon as it was discovered, and observations of the activities of the occupants of these dens were made during each hour of the day and night.

All fecal material was collected frequently and segregated on the basis of both time and locality. This provided material which could be analyzed with special reference to the individual family units as occupants of separate dens.

Many of the occupants were observed so frequently that some intimate knowledge was obtained regarding the habits of the individual animals.



Map shows the location of the dens studied.

From the data obtained by consistent field observations and an analysis of the material obtained from or in the vicinity of individual dens, information has been derived which throws light on the meaning of food habits research in general, and particularly on the relations of skunks to birds. To further their investigation of the food habits of individual skunks, observations on captive skunks were frequently made, and during the last month of the investigation numerous dummy nests were placed within the feeding range of the individual skunks already studied.

The eighty-four dens in use at some time during the period of this investigation are shown in Figure 1. Their relation to farm buildings is also indicated. In the volumetric analysis, bird material was found poorly distributed as to frequency of occurrence in individual samples and individual dens. In fact, it was found in only 37 of the 302 samples examined and was recovered at only 7 of 78 dens from which samples were collected. Seventy-seven per cent of the total bird material by frequency and 73 per cent by volume came from one den. This consisted largely of feathers of domestic hens.

Table 1 gives the distribution of the bird material for the 78 dens, in per cent of frequency of occurrence, per cent of volume, and in number of times gathered at each den.

Table 1. Distribution of Bird Material on Basis of Locality, Frequency of Occurrence in Per Cent, and Per Cent of Total by Volume.

Locality of Den	Times Found	Per Cent of Occurrence	Per Cent of Volume, for Entire Area, for 2-Year Period
II-D-15	27	73.0	77.0
I-D-10	2	5.4	.7
I-C-2	3	8.0	4.1
II-C-7	1	2.7	5.0
II-C-2	2	5.4	2.7
I-A-2	1	2.7	5.0
I-D-5	1	2.7	5.4

The above table indicates that the presence of bird material in the feces of skunks is closely related to various factors in the environment, as well as to the individual behavior of the skunk. For instance, on several occasions dead hens were found at the entrance of the den located at II-D-15, situated close to a barnyard where hens were occasionally thrown. The inhabitants of this den fed upon mice during the early spring but turned to a poultry diet during May. The den was located in a rail fence which had grown up to a hedge of various trees and shrubs, including cherries, the source of the fruit taken during July. The hedgerow was the crowing site of a cock pheasant, and a flock of pheasants used the hedge as an "escape" throughout the summer. Evidence indicated that a young pheasant had been eaten by this group of skunks. Numerous small birds used the hedge as a roosting and feeding site, and evidence of the remains of song birds was also found.

For each of the two years the den at I-D-10 was the home of a litter of young. It was located in a hedgerow separating a clover-field and a cultivated field at the edge of a large marsh which harbored an abundant supply of pheasants. In fact, the small clump of sumac, panicled dogwood, cherry, and grape, the habitat for this group of skunks, was one of the escapes constantly sought by pheasants and was near one of the most consistently used pheasant nesting sites in the entire Northville area. In spite of the large amount of material collected at this den, bird remains were found in the feces but twice, and only .7 of the total bird material came from the den.

Den I-C-2 provides interesting information on the behavior of the skunk. The den was situated in the corner of a fine old-growth woods, surrounded at the time by abandoned fields grown up to herbaceous plants and shrubs and consisted of a nest of leaves beneath a rusty overturned sap pan that had been discarded years previously. An analysis of the material collected revealed but three samples which contained the remains of birds. This, of course was not extraordinary, but a larger number of the droppings contained eggshells, and it appeared that here was the home of a

the EASTERN SKUNK

*with particular reference to birds and bird eggs**

veteran egg eater. Each shell particle was carefully analyzed, and nearly all were identified as hens' eggs, although hens were not sufficiently near to warrant such consistent use. This strange condition is easily explained. The skunk's headquarters was within a few yards of a picnic ground where hens' eggs and their shells had been discarded. It is evident, in this case, that man had not only been responsible for a near conviction of the skunk, but he may have been responsible for establishing an egg-eating tendency on the part of a wild animal.

Den II-C-7 was the home of a fine family of young skunks whose mother had evidently been killed by an automobile. The analysis of considerable material collected at this den indicated that the mother skunk had eaten a small bird.

Den II-C-2, located in an open beech-maple woods, was an old woodchuck den beneath a stump. The two young skunks taken from the II-C-7 den were placed in it and were fed milk for several weeks. The material then analyzed indicated that they had apparently fed upon a song bird. As they were still too small to be killers of such active prey, it was concluded that these young animals had found a dead bird.

Den I-A-2 was situated within one hundred yards of a farmyard. The bird remains consisted of poultry dragged to the den from the nearby barnyard where it had been discarded.

Den I-D-5 was located in a straw stack. The feathers showed that the bird material consisted of English sparrows.

The findings recorded here indicated that the skunks inhabiting the 78 dens investigated, seldom, if ever, killed birds. The greater proportion of the bird remains found in the material analyzed consisted of poultry, and although it is well known that skunks sometimes kill chickens, no evidence was derived from this work to indicate that young chickens had been taken by the inhabitants of these dens.

The 302 samples were especially analyzed to obtain the minutest pieces of eggshells which might be readily overlooked in the usual stomach analysis methods. The technic involved washing the samples through soil sieves, followed by an examination of the residue contained in pans, with special background and lighting conditions to facilitate the removal of each tiny particle of eggshell. As each sample was prepared separately, it was possible to identify them with the den at which they were collected. Eggshells were found present in 17.7 per cent of the samples.

As has alrady been discussed, the samples were gathered from the region of 78 individual dens, and the distribution of eggshells on the basis of dens coincided closely with the distribution of findings of bird material, for 75.4 per cent of the occurrence of eggshells in the feces samples was from the two dens, II-D-15 and I-C-2, the same dens that produced the bulk of bird material. The remaining 24.6 per cent of the total occurrence of eggshells was distributed among nine dens. Thus, eggshells occurred in the samples of but 11, or 14 per cent, of the 78 dens studied.

Fifty samples were examined under a binocular microscope for the purpose of identifying the shells. The identification of eggshells after they have passed through the alimentary tract of a mammal is difficult, but on the basis of color, the curvature and thickness of the shell, and the characteristic markings, it was possible to identify at least a part of the shells. The results were as follows: Hens—30, small birds—9, unknown—7, quail—2, pheasant—1, and crow—1.

The sources of the hen eggs are believed to be as follows:

1. Artificially incubated eggs discarded along wood roads.
2. Eggs and eggshells thrown out by picnickers.
3. Hen nests in fence rows, beneath buildings, or in other places about farm buildings.
4. Eggs that may have been used in the dummy nest studies, although this could not have occurred before the last month of the two-year study.

The comparatively light representation of small ground nesting birds seems surprising when one considers their abundance on the normal range of the skunk in southern Michigan.

Field observations provide better information as an explanation of this small representation of ground nesting song birds in the diet of skunks than can be derived from stomach or fecal analysis.



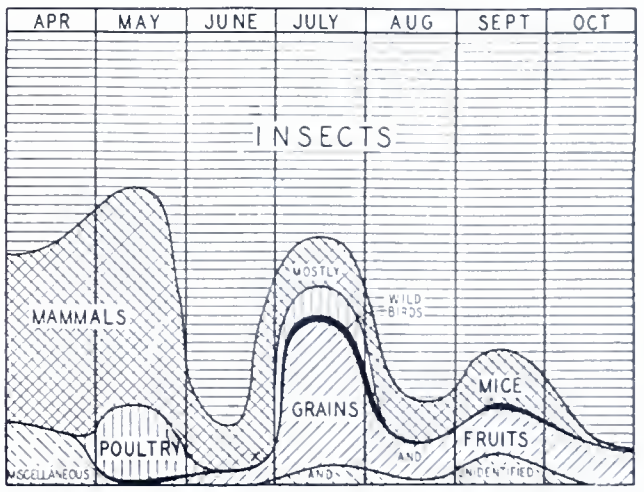
A broody hen would drive a skunk away from her nest.

The eggs of ground nesting birds or birds nesting in low shrubs readily accessible to skunks have frequently been observed to hatch successfully. One of the first skunk dens located on the Northville area was close to the nest of a vesper sparrow which hatched successfully. On various occasions a family of skunks were observed tearing up cow dung for the insects in a pasture corner while they repeatedly approached to within a few feet of a sparrow incubating her clutch.

Observations of hundreds of skunks, both in captivity and in the wild, reveal that they do not possess the same power of locating individual objects so often demonstrated by dogs. Skunks actually appear stupid and apparently are animals of habit, seeking their food beneath objects, tearing up dung, and peeking into holes. That their sense of hearing is used in searching for food is readily demonstrated by young skunks that seem unable to find dead May beetles placed within their box, but locate live beetles instantly by the sound of their wings. It is my impression that a broody pheasant hen would drive a skunk away from the nest, for it has been observed that a domestic hen readily becomes the aggressor in the presence of a skunk. Even a comparatively small bird might have the same effect. At one time a skunk was observed walking directly toward a cock pheasant resting beneath a tree. When but a few feet from the pheasant, the skunk saw the bird, quickly backed away, and, describing a wide semi-circle, continued on its way.

There is much evidence to indicate that the skunk is not a natural egg-eating animal and that it must learn the habit through experience. This is true of most captive skunks, and the data that we have presented here further substantiate this belief. On one occasion a large male skunk, trapped beneath a henhouse, was placed in a pen containing a broody hen. The skunk used a box, on which the hen roosted at night, for a den. Upon resuming its laying, the hen regularly used the same box in which to deposit its eggs, and the skunk at no time ate the eggs left by the hen, although they were easily accessible.

(Continued on Page 30



Food Graph showing the diet of a skunk over a 7-month period.

"THREE CLAW"

A PIKE COUNTY BEAR STORY

By ROBERT J. WHEELER

THEY found him under a big white pine tree, sitting up in the snow on his little hinder, crying for all the world like a baby who lost his mama.

At first, when they heard his cry, the boys who were returning homeward from the saw mill, thought it was a baby. They picked the little cub up but he yelled louder. "What'll we do with him, Bill," said Jerry?

"Well, if I know anything about bears, we better leave him right here and get away before his mother comes back," said Bill.

Just then a big black she bear burst out of the swamp and made for the boys with quick leaps and angry growls. She was too close for the boys to get away. Bill quickly picked up a stake that lay nearby and as she came within range, struck her a hard blow across the snout. It took all the fight out of her and she turned back toward the swamp, Bill belaboring her again and again on the rump with his stake.

Of course it was all too bad. The bear family lived in the swamp near the saw mill all winter. Almost every day the old bear sat on the slab pile waiting for the boys to throw something to her. They had never seen any of her cubs before and would not have molested her had they not come upon the little cub as they did.

The old bear was probably as surprised as the boys when they set upon her. The heavy blows and the sudden change in their attitude must have confused and frightened her. She meant to fight when she came out of the swamp instead she plunged into the swamp and the boys never saw her again.

So they gathered the little crying bear baby up and carried him home. This was long before the time of game laws.

When the boys reached home and the women folks saw the little fellow they were all for keeping it for a pet, although the father of the family had misgivings about bears as pets. "The danged things grow too big," he said. "Yc can't make them mind when they get big as a calf; and they get too destructive. Better take him back and put him where ye found him, boys. The old one will take care of him better than ye can."

But the children and women folks wanted to keep him, and so they did, but the troubles they had later with that bear should be a warning to all kindhearted people who think they know more than Nother Nature.

But at first the little bear was a great pet. They raised him from the bottle and it was very funny to see the little black tyke sitting up like a person, holding the bottle in his paws as he sucked every drop of milk.

The family had a shepherd dog puppy about the same size as the cub and the two soon became great friends. When the bear got the worst of any rough play he would quickly climb a tree and from the safe haven would look down scornfully at the dog.

He grew amazingly. By October he was a great big fellow, weighing nearly a hundred pounds. Up until the first year they let him run about with the dogs, but he became such a trouble maker that the women finally agreed to have him tied up. The boys set a big post in the yard under a shade tree, fixed a heavy ring in it, and chained the bear to the post.

The new regulations made the bear feel terribly bad. At first he tugged at the chain, but the heavy links held and he had to submit to the indignity. However, the boys did not count on the soft heartedness of the women. Whey they had gone to work and the women were about the yard doing their daily work, the bear would sit up and cry like a hurt child, the big tears running down his face. At last it would be too much for the women and they let him out occasionally. Of course he went right back to his old tricks. If the women were churning and left the churn for a moment,



Never take a bear cub home. They grow too big!

the bear who was probably watching just around the corner of the house, would climb up the churn handle and overturn the whole thing, or if they were washing the clothes, and went into the house for a minute, he would be found paddling in the tubs upon their return.

The family had a pet cow that always came home at night from the woods. The mother of the family would have a special pail of feed mixed up for the cow's supper. If they did not stay right by and watch her, the bear would drive the cow away and eat her supper himself.

In his second summer, he was a very large bear, weighing close to three hundred pounds. From the first he was allowed to run in and out of the house with the dog, but it was entirely different now since he had become so large; but Andy, as they called him, could not understand why a three hundred pound bear should not go in and out as he always had done.

Finally the women had to admit that driving a three hundred pound bear out of the kitchen a dozen times in one morning and having the butter and the wash ruined time and again, besides many other troubles, was just too much. At last Andy was tied up for good to the big post.

It was during his second summer that he lost two of his claws. While he was allowed to run about the yard freely he developed many cunning tricks. He used to wrestle with the big boys, who taught him to come up behind and push one of them over. It was such fun that whenever he saw anyone bending over he would hurry up behind them, push them over, and then run away with every sign of amusement, just as a human being would act.

One day he was roaming about the yard looking for trouble when he saw Bill splitting kindling wood. Bill was bent over the chopping block with the sharp axe in one hand, splitting dry chestnut into small pieces for the morning fire. Andy came up behind him and pushed just as the axe descended. He must have miscalculated because one of his paws came down on the chopping block as the axe fell and chopped two claws clean off his right foot.

Such a time as they had with Andy. He ran about the yard holding his bleeding paw up and yelling just like a hurt dog. The women came running out and Andy ran to them holding his paw up with the blood running from it. The boys tied a rope about his arm and stopped the flow of blood. Bill jumped on a horse and galloped to town for the horse doctor, who, when he came, sewed Andy's paw up and bandaged it nicely. For a long time Andy limped about. The mother of the family dressed his paw every day and Bill took an old boot and fitted it so that Andy could wear it until his paw had entirely healed.

They kept him tied after that. Because he played on the women's feelings so much, the boys set a new stake behind the barn and built a house for Andy. The swamp was just behind the barn. Andy used to walk in a half circle the length of his chain and look toward the swamp. When the mating season came around he would stand still with his nose elevated, sniffing scents from the swamp. He became moody and sullen. Finally the father of

(Continued on Page 31)

QUESTIONS AND ANSWERS ON GAME LAWS

By CHAS. F. STAMBAUGH

Q. Is it permissible to own and possess a .22 Cal. auto-loading rifle or 12-Ga. auto-loading shotgun in Pennsylvania May I use the riflle for target shooting and the shotgun for trap or skeet shooting

G.D.—Utica, New York.

A. There is nothing in the Pennsylvania Game Law to prohibit the ownership in this State of a .22 Cal. automatic rifle or a 12-Ga. auto-loading shotgun. Our law prohibits the use of either of these guns for taking any wild birds or wild animals, including the unprotected species, but there is no objection to using an automatic gun for target, trap or skeet shooting.

* * *

Q. Is it legitimate to keep a red fox in captivity? A groundhog? Is a permit required.

B.M.—Crucible, Pa.

A. It is permissible to possess a red fox, or a fox of any other species, in captivity, but the Game Law makes it unlawful to release any fox that has been reared in captivity or in a domestic state in this Commonwealth. The groundhog is now classed as a game animal, and it is unlawful to keep one of these animals alive when taken in a wild state in Pennsylvania after June 3, 1937, the date the present Game Law went into effect. The Commission does not issue permits for the possession of any animals taken in closed season.

* * *

Q. Does the five o'clock law apply to woodchuck hunting in the Spring and Summer? It seems to me that cutting the hunting day down to five o'clock in the evening would abolish a good part of the hunting day in Summer. Will the time be E.S.T. or D.S.T.?

D.DiS.—Phila., Pa.

A. The law limiting the hunting of game to weekdays between the hours of 7:00 A.M. and 5:00 P.M. applies to the hunting of woodchucks (groundhogs) as well as all other game in season. The Game Commission is without authority to permit additional hunting of groundhogs in the evening after five o'clock. That can be done only by the Legislature. The Game Law specifies that the hunting hours shall be Eastern Standard Time.

* * *

Q. Please tell me what animals or creatures can be hunted all the year round. Also, what animals is the State paying a bounty on?

J.G.—Scranton, Pa.

A. Following is a complete list of the unprotected birds on which there is no closed season: Blue Jay, English Sparrow, European Starling, Kingfisher, Great Horned Owl, Crow, Goshawk, Sharp Shinned Hawk, Cooper's Hawk, and Snowy Owl. The principal unprotected animals are: Foxes (all kinds), Wild Cats, Weasels, Porcupines and Chipmunks (ground squirrels). Bounties are now being paid by the Pennsylvania Game Commission as follows: Gray Fox, $4.00; Weasel, $.50; Goshawk, adult, $2.00; Goshawk, fledgling, $1.00; Great Horned Owl, adult, $2.00; Great Horned Owl, fledgling, $1.00. These birds must be killed between November 1st and the following May 31st, inclusive, in order to claim bounty.

* * *

Q. I have a .22 Colt Automatic Pistol and HAVE A PERMIT. Am I allowed to carry same in the woods?

H.F.—Morris, R.F.D. 1, Pa.

A. Inasmuch as it is unlawful under the present Game Law to hunt or take any wild birds or wild animals through the use of an automatic firearm of any kind, it is not advisable to carry an automatic pistol in the woods for the purpose of shooting at birds or animals. In fact, the possession of such a pistol while hunting may be "prima facie" evidence of its illegal use; and to be on the safe side, I would not carry it while hunting birds or animals. There is no objection to the use of an automatic pistol for shooting snakes.

* * *

Q. When are we allowed to hunt foxes?

W.S.H.—Conemaugh, Pa.

A. Foxes may be hunted at any time of the year, but the use of dogs in hunting these or any other wild animals, including groundhogs, from April 1st to August 19th, inclusive, is not permitted. Foxes may be trapped any time, providing the regulations on the use of traps are observed. April 1st to August 19th is the season when young game in a wild state is being reared, and dogs at large during that period, regardless of the purpose, can play havoc with our prospects for good hunting next fall when the seasons open.

* * *

Q. There is a cat in my neighborhood which climbs my fence and tries to reach down and scratch my bull-dog's face. Do you see any objection to shooting or otherwise killing this cat, as I do not want the eyes of my dog put out?

W.R.S.—Erie, Pa.

A. The house cat has absolutely no protection in Pennsylvania, and is not recognized by law as personal property. On the other hand, the dog is given the legal distinction of being personal property. We are therefore obliged to decide in favor of the dog, and the solution to your problem seems to be to humanely kill the cat. It will be necessary to obtain the consent of police authorities to discharge firearms within the city limits.

* * *

Q. Is it all right to hunt groundhogs with a 1937 license?

F.F.—Hillsville, Pa.

A. Yes. You may use your 1937 Hunter's license for that purpose until August 31, 1938, the date it expires. You will require a new hunter's license on September 1st.

Q. It is rumored that the season on groundhogs or woodchucks has been changed this year. Is that right?

G.C.A.—South Oil City, Pa.

A. The groundhog is now classed as a game animal, on which the season is open until September 15, 1938, SUNDAYS EXCEPTED. Hunting is legal only between 7 A.M. and 5 P.M., Eastern Standard Time. It is unlawful under the new Game Code to dig out or trap groundhogs. The methods of taking them are restricted the same as those in effect for other small game, such as rabbits and squirrels. The use of dogs for hunting them is not permitted from April 1st to August 19th, inclusive.

* * *

Q. Can I obtain a permit to carry a revolver for the purpose of fishing, hunting, trapping, camping, hiking, prospecting for fur and target practice?

P.K.Jr.—Glen Lyon, Pa.

A. As we read the Firearms Act of 1931 (which is not a Game Law), the registration of your revolver with your County Treasurer for a fee of 15c, under your hunting license, entitles you to use the revolver for both hunting and fishing during the period the **hunting license** is in effect. In our judgment, you could use your revolver for fishing purposes until August 31, 1938, after which you will require a new registration. A permit from your County Treasurer to carry a revolver covers its use only for hunting, fishing or training dogs. It does not cover target practice, protection or any purpose other than the three mentioned. Trapping and prospecting for fur may be construed as forms of "hunting."

* * *

Q. I have been informed that it is lawful to run or train bird dogs on public and State lands under special license after March 31st.

A.K.—Scranton, Pa.

A. You have apparently been misinformed as it is strictly unlawful to train dogs on game of any kind during the closed training season, which is April 1st to the following August 19th, except under field trial permit issued at a cost of $5.00. This, however, covers training in competition for a period of not more than three consecutive days. Keep dogs out of open territory during this closed season, and give young game a chance to grow to maturity!

* * *

Q. May I use a .22 Automatic Rifle for hunting woodchucks or crows?

D.M.—Meadville, Pa.

A. No. The present Game Law prohibits the use of automatic firearms of any kind to take wild birds or wild animals in this State, regardless of the species. You may not use an automatic rifle or shotgun to hunt woodchucks or crows.





TOP: Left to right—Over 400 requests to adopt Prince, the dog found chained to a tree in the woods near Monongahela, deserted by his master, were reeeived by the Western Pennsylvania Humane Soeiety from seven states. The Soeiety awarded the animal to William Casey, left, and Joseph Cragen, Crawford County;—photographing a bear den in Tioga County;—the Tea Springs Lodge, Lyeoming County, had exeellent suecess last season. Left to right—Federal Judge Albert W. Johnson and youngest daughter, Diane; Rev. W. F. Steek; Floyd Klobe, guide; Mr. Benson, elerk, middle distriet Federal Court; Max Reed, University Cornell Line Coaeh; Assoeiate Judge Frank Keller; Luther Martin, Chief Bailiff, Middle Distriet Federal Court, Penna.; Clyde Persun, Caretaker; and Newton Baker, Esq., Washington, D. C.; Golden Eagle.





SECOND ROW—Harold Miller, 21 years old (left), and Earl S. Ott, 30 years old (center), both of Upper Mt. Bethel R. D. 1, and Floyd Ott, Jr., 17 years old (right), of Lower Mt. Bethel, Bangor R. D. 2, shown with the three bucks which they bagged last season;—Banding ducks at the Pymatuning Refuge;—Chukar partridge. Some hunters flew to their favorite grounds. A kill right after he landed.













THIRD ROW—Members of Harrisburg deer camp and their trophies;—Wild turkeys at feeding station on Game Refuge in Mifflin County;—Lehigh County sportsmen killed 148 crows reeently on the south side of Blue Mountain near Palmerton. They are, reading left to right—Lee Shanon, Donald Brent, Milton Horn, Paul Kellow, Dewey Heimbach, and Tex Horn;—Bucknell College Coach showing students how to handle firearms.

BOTTOM ROW—The cubs get their first view of his canine majesty;—Louis Strous, of Barbers, with a 20-point taken last season;—Paul Howry, of Shiremanstown, with his dog Rodney's Frank Mike, reputed to be one of the finest setters in the country. He has won many field trial events;—A young Susquehanna woodchuck hunter;—Hibernating bear and cub found in Tioga County bear den mentioned in top row.



A portion of Pennsylvania's present deer herd on one man's 150-acre farm adjacent a woodland area. Over 167 animals have been counted on the farm at one time.

CURRENT TOPICS

NIGHT CLUB OPERATOR SENTENCED FOR SERVING ILLEGAL WILDFOWL

A Federal game law violation case, involving people from California to New York City and taking more than a year to complete has been closed with a Leavenworth Federal penitentiary sentence for Jack Horner, proprietor of the famous Gingham Inn outside of Fort Worth, Tex., the U. S. Department of Agriculture announced.

Horner, who operated a nightclub on Jacksboro highway, catered to a wealthy and prominent clientele. People from all over the country ate wild duck, quail, plover, dove, and other wild birds at his inn. The birds were available in season and out. Horner purchased them from market gunners in great quantities over a period of years. In addition to serving them, he wholesaled his illegal product.

U. S. Biological Survey officials say that Horner was the top man in an agency that destroyed many waterfowl and upland game birds. It is estimated that the normal number of legitimate hunters from several counties would take less in one whole season than this man bootlegged annually.

The Horner case has attracted national interest since the Biological Survey began investigations, and Audubon societies, sportsmen's clubs, and magazine and newspaper editors over the entire country have been urging prosecution of the case. Under the Migratory Bird Treaty Act the buyer of wild game also may be prosecuted.

PENNSYLVANIA FORESTRY ASSOCIATION

More State Forests, including the remnants of virgin timber still standing in Pennsylvania, and expansion of the forestry department at Pennsylvania State College into a combined school of forestry and conservation, were among the objectives of a new 5-year program of activities approved by the executive board of the Pennsylvania Forestry Association at a special meeting held in Philadelphia, March 16, 1938.

The Association intends a vigorous campaign for passage of the $10,000,000 Forest Bond Issue at the next session of the Legislature. This bond issue for purchase of additional State forests passed the 1937 legislature.

The Pennsylvania Forestry Association feels very strongly, particularly in the light of cooperative arrangements just completed between State College, the State Game Commission, and the U. S. Biological Survey, that combined training in forestry, management of wildlife, and all other phases of forest conservation, should be given at the college, and intends to urge that this work be put on a par with agriculture, by setting up on the campus a separate school of forestry and conservation. Duplication of effort will of course be avoided.

The Forestry Association is an active member in the Pennsylvania Federation for the Merit System, which campaigned for a state-wide civil service law at the last session of the Legislature.

CHANGING OF NAME TO COOPERATIVE FARM-GAME PROJECT

The term "Farm-Game Refuge Project" was found to be somewhat misleading to the sportsmen and the public in general. Many persons seemed to think that the entire project area was closed to hunting. As a matter of fact, at least two-thirds of each project area remains open to legal hunting. The other one-third, and in some instances less, comprises Game Refuges and Safety Zones, the latter encircling buildings. The Commission, therefore, at a recent meeting, decided to change the term, striking out the word "refuge."

Since these projects are cooperative between farm owners, the Game Commission, as well as sportsmen, the Commission decided the word cooperative should be incorporated as a part of the name by which the projects are known. Hereafter they will be designated "Cooperative Farm-Game Projects."

AIR BEACON ON GAME LANDS

The United States Department of Commerce, Bureau of Air Commerce, has been granted the right to maintain an air beacon light on a small plot of land, approximately 500 feet square, on State Game Lands No. 48, in Bedford County. This beacon will be placed on a high point on the mountain and will guide aeroplanes on their course between the Nation's Capitol and Pittsburgh.

CURRENT TOPICS

ADDITIONAL LANDS APPROVED FOR PURCHASE

At a meeting of the Game Commission held April 7, 1938, the following tracts of land were approved for purchase:

Wayne County

Damascus, Dyberry, Lebanon, Mt. Pleasant Townships

7,000 acres, more or less, offered by the Tanners Falls Development Company.

Bucks County

Haycock Township

Bernie B. and Viola S. Smith	68 acres
Horace M. and Martha L. Louz	51 "
Benjamin Hottel	39 "
Harry and Madeline E. Trouts	5 "
Howard R. and Flora T. Moyer	7 " , 55 perches
Earl B. and Ella M. Hafler	9 "
William Newton and Katie Hoot	68 "
Mrs. Amanda K. and Erwin Pearson	10 "

Columbia County

Main Township

Samuel L. Bredbenner	39 acres
Mrs. Hanna Watts	81 "

Blair County

Huston Township

Elizabeth Patton Hemphill	422 acres

Erie County

Amity Township

The Federal Land Bank of Baltimore	184 acres
T. P. and Grace Montague	145 "

Conneaut Township

Commissioners of Erie County	77 acres
Commissioners of Erie County	119.5 "
Frank and Rebecca Joiner	81.8 "

Venango Township

John and Susanna F. Wonner	225 acres

A number of other tracts were conditionally approved for purchase, but at the time this is being written purchase contracts have not been entered into.

The Commission has at this writing taken title for a total of 575,644.92 acres. In addition and including the tracts above mentioned the Commission has a total of approximately 35,051 acres under contract for purchase.

MOUNTAIN LIONS ROAM PA. HILL?

The natives of Potter and Tioga Counties insist that there is a panther (mountain lion) roaming the hills of northern Pennsylvania. The first report came from a section foreman at Corbett who claims he saw a large catlike animal, "about as big as a lion," on March 16. Other residents claim that they occasionally heard panther-like screams on the hills.

On March 24, another individual saw a very large animal with a long tail curved upward at the end, bound across the highway. These and many other reports having become so pronounced within the last few weeks, and descriptions of the animal tallying much with what a panther looks like, the Game Commission made several inquiries.

Among other things it was learned that about four or five years ago a party from Williamsport secured two mountain lions. At that time Gus Beck the local Taxidermist heard about it and decided to investigate. He learned the lions were being held in a cage up above Pine Creek, but when he got there the back of the cage had been torn out leaving him to believe the animals had been liberated. That is the last was ever heard of those particular panthers in that section.

Recently Game Protector, A. G. Logue, Coudersport and L. H. Wood of Wellsboro, contacted many reliable people in Potter and Tioga Counties who told them other stories of seeing the mountain lions. These officers further go on to say that they received reports of panthers in that section every two or three years. It would seem that if such a large animal is at liberty in our mountains that some big game hunter would have been lucky enough to have killed it long ago, but apparently no one sees it, or its tracks during the fall and winter months.

It would seem also that the creatures, if they existed, would obey the natural inclination to attack livestock unless they hate to depart from the choice venison which they have no doubt been enjoying. Nothing is impossible however, and the rumor should not be scoffed at. Were they few and far between, and offered by unreliable persons, we could accept them for what they were whether pure superstition, fallacy, or myth, but the great number of intelligent and reliable persons who have reported the instances leaves us to believe that there must be some foundation to their accounts. We know definitely that coyotes have been brought from the west and released in Pennsylvania for a number of them have been killed from time to time. In fact sportsmen's associations in certain counties have asked the Game Commission to declare a bounty on these animals in order to control them locally. Therefore, if it was definitely known that a couple of panthers were released a couple years ago what is more logical than to believe that they are still at large, especially since no one ever reported having killed such a creature in our woodlands.

A Correction

The photographs and map used in connection with Lieut. Col. Biddle's article on the "Tragedy of the Delaware," appearing in the May issue of the Pennsylvania GAME NEWS were supplied by the Philadelphia Evening Bulletin.

FEDERAL AID FOR WILDLIFE

On Monday afternoon, April 18, information was received from Washington that the House approved finally the million dollar item for launching the Federal Aid to Wildlife Program under the Pittman-Robertson Act. The item was approved by an overwhelming majority when it came before the House, and no further difficulty is anticipated concerning it. This means that the Game Commission must prepare plans to match approximately $50,000.00 of Federal funds during the next fiscal year.

THE PYMATUNING REFUGE CLOSED TO THE PUBLIC

The Pymatuning Migratory Wild Waterfowl Refuge, in Crawford County, has become so well known as a resting, feeding and nesting area for migratory birds that all too many persons wanted to go within its confines to see or study migratory wildlife. This resulted in frightening away birds when they were seeking rest and food during migration, as well as those nesting within the area.

The Game Commission, at a meeting held April 7th, decided to restrict public entry into this refuge, except by special permit. This action was taken under authority conferred on the Game Commission by Sections 940 and 941 of the Game Law by the Act approved June 3rd, 1937, P. L. 1225.

Persons desiring to enter the refuge may if they can present a good and valid excuse secure a permit from the office of the Game Commission at Harrisburg. Ordinarily permits will be restricted to persons desiring to make scientific studies.

REMORSE

A hunter shot in a flock of geese
That flew within his reach.
Two were stopped in their rapid flight,
And fell on the sandy beach.
The male bird lay at the water's edge;
And just before he died
He faintly called to his wounded mate
And she dragged herself to his side.
She bent her head and crooned to him,
In a way distressed and wild,
Caressing her one and only mate
As a mother would a child.
Then covering him with her broken wing,
And gasping with failing breath,
She laid her head against his breast,
A feeble honk—then death.
This story is true, though crudely told,
I was the man in the case;
I stood knee deep in the drizzle and cold,
And the hot tears burned my face.

I buried the birds in the sand where they lay,
Wrapped in my hunting coat,
And I threw my gun and belt in the bay,
When I crossed in the open boat.
Hunters will call me a right poor sport,
And scoff at the things I did;
But that day something broke in my heart,
And . . . shoot again? God forbid.

—Truman P. Reitmeyer.

The above poem was written by a great sportsman. For years this prominent Williamsport architect relaxed from his professional duties to hunt and fish, more to get into the wilds, however, than to bag game. It was on one of his excursions that he wounded the birds to which this description applies. After that he put away his gun and never hunted again.

CURRENT TOPICS



Hundreds of deer are killed on Pennsylvania highways annually.

Robert Bradenbaugh killed a deer on Route 68 near Kane when the animal jumped upon his automobile.

A car struck a deer at the bridge opposite the Loyalsock State Game Farm in Lycoming County recently, and the impact sent the animal hurtling over the hood and through the windshield where it landed on the driver's lap. It was later killed by Bud Greenwood, the Game Superintendent's son, and the carcass was distributed locally.

A frightened buck jumped through a large plate glass window of the Catawissa garage, Catawissa, recently, and although slightly wounded by the shattered glass, ran out the front door, swam the river and disappeared into the woodlands along the opposite shore.

A doe, weighing 115 pounds, was killed recently on the Susquehanna Trail, just south of the bridge across Middlecreek, three miles below Selinsgrove. The doe, coming off the hill at the entrance to "The Narrows," wandered onto the highway into the path of an automobile operated by a Liverpool man. The animal suffered a broken leg and other injuries which proved fatal.

The car of Levi Wolfe struck a deer on the Lickdale road in Lebanon County. The deer scampered away apparently unhurt. The driver lost control of the car and smashed into a post doing considerable damage to his automobile.

An old buck was struck and killed by a car three miles north of Cowansville, Armstrong County.

A 90-pound buck was critically injured when struck by an automobile in West Cameron Township. The buck was shot by a Game Protector, who gave the carcass to the County Almshouse.

A fine large buck deer was killed by a milk truck driven by Willis Cree, of Glasgow, Pa.

A spike buck was killed and several other bucks and does were believed injured when they were struck by a car operated by Dr. E. W. Larson, of Somerset, of the Water Level Road. Dr. Larson was proceeding slowly along the highway, due to a dense fog, and did not see the herd on the road until he was within a few feet of the animals. A spike buck, weighing 150 pounds, leaped onto the hood of the car, and dropped to the road, dead, as the vehicle crashed into the others,

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A doe was killed on the Latrobe-New Alexandria road by a car driven by Jay Mumau, of Unity Township.

JOHN MUIR

In response to wide public demand for suggested programs, bibliographies, etc., on which to base community celebrations in honor of John Muir, America's great apostle of conservation, some splendid material has been prepared by the National Park Service. It is intended as an aid to groups and educational and civic leaders interested in conservation who may desire to stimulate public observances featuring John Muir and his accomplishments.

Such group leaders and conservation organizations may obtain copies by addressing their inquires to the Director of the National Park Service of the United States Department of the Interior, Washington, D. C.

Not only his birthday, April 21, but the whole calendar year belongs to John Muir, who saw and extolled the beauty of nature unfolding month by month.

During March 96 prosecutions of the game laws were brought and the total of $2210.50 in penalties collected.

IN MEMORIAM

Sportsmen and Nature lovers all over the country paid tribute to Dr. George Bird Grinnell, author, naturalist and explorer, often called "the father of American conservation," who died recently at his home in New York.

Founder of the First Audubon Society and an organizer of the New York Zoological Society, Dr. Grinnell for many years was chairman of the National Parks Council and succeeded Herbert Hoover as president of the National Parks Association.

A trustee of the New York Zoological Society from its beginning, he selected the site of the present zoological park in the Bronx. He discovered Grinnell Glacier and led the movement which resulted in the protection of Yellowstone National Park by legislation.

Dr. Grinnell not only enlisted his pen in the cause of conservation, but was active in the work of various conservation organizations. Among those was the American Game Association which he was instrumental in founding in 1911, and of which he long was a director. From 1918 to 1927 he was president of the Boone and Crockett Club.

Surviving is his widow, the former Mrs. Emery Leverett Williams, of Boston, whom he married in 1902.

It is with deepest regret that we announce the death of Harry C. Krisher, Deputy Game Protector of Watsontown, Northumberland County. He was well known and well liked by hundreds of sportsmen in Northumberland and Montour Counties and contributed much to the game conservation program of that community by supporting Mr. Bruce Yeager, the local Game Protector, so wholeheartedly. Time meant nothing to him and he spent many long hours in the enforcement of the laws and in feeding game. He was a lover of bird dogs and was never without a good pointer.

Again we stand at attention as the bugle sounds the passing of our friends—Samuel A. Shaffer, former Game Refuge Keeper from 1916 to 1920.

Mr. Shaffer was always interested in wildlife conservation and his enthusiasm was unbounded. He started his work with the department on Hicks Run Refuge in Cameron County and by his untiring efforts made of that sanctuary one of the best of that time.

F. J. Trembley calls attention to the fact that the hawk pictured on the left of the first page of his article on "Pennsylvania Duck Hawks," (February issue) is an immature Goshawk, the other a matured male Duck Hawk. Both birds belong to Dr. Robert M. Stabler of the Zoology Department of the University of Pennsylvania.

CURRENT TOPICS

NOTES FROM THE FIELD

"Carlos P. Darling, J. P., of Lawrenceville, Pa., has a collection of about 100 bird eggs, that was made by him in 1888," ranging from a hummingbird to an owl.—Refuge Keeper Hugh Baker, Tioga Co.

"On March 21 while driving on Route 394 in Adams County I came across a large Marsh Hawk trying to kill a hen pheasant. I took the pheasant home where I greased it with clean lard as both eyes were in very bad condition."—Deputy Game Protector, J. Russel Mummert, Adams Co.

"National Wildlife Restoration Week was celebrated on Game Lands No. 54, Jefferson County, by planting 10 bushels of game food seeds, 6 bushels of which were red maple leaf, viburnum and 4 bushels of mixed seeds of black haw, sweet briar, pasture rose, carrion flower vine, bittersweet, green briar, black gum, mountain ash, elderberry, and poke weed. Clumps of hawthorn and evergreens will be added to the area later to assist in furnishing winter cover."—Refuge Keeper Earl Smith, Jefferson Co.

"The last three weeks deer have fed exceptionally heavy on devil's club on Game Lands 44-54. Unless they switch to other food soon they will ruin all of the devil club in this area. The winter of 1937-37 the deer ruined tons of foods for grouse and bears by killing much of the devil's club and they seem to be doing a thorough job of cleaning it up this spring unless the summer vegetation reaches a stage where they will switch to it in the next few days."—Refuge Keeper Earl Smith, Elk Co.

"Our WPA Project on Game Lands No. 79 ended on April 5, 1938. The sportsmen in this section and I are very much pleased at the large amount of improvement work made on this land. Approximately 3000 acres of food plot cutting and nearly a thousand apple trees pruned, also several thousand food producing shrubs and trees planted, roads repaired, refuge line, fire trails, boundary lines cut and mowed, and many other things."—Refuge Keeper Bruce Catherman, Cambria County.

"On April 6 about 7 inches of snow fell and during the night it rained and formed a heavy crust. All trees were covered with a heavy coating of ice."

"On the afternoon of April 8 it snowed 8 inches on top of the crust. This made feeding conditions for wildlife extremely serious. It was, however, interesting to note that the deer stayed in the strip and release cuttings which I had made and appeared to have no difficulty in getting plenty of food."—Refuge Keeper E. W. Turley, Elk County.

"While on Game Lands No. 87 I chased grouse and rabbits out of slashings and cuttings made by the WPA. As high as five or six grouse have gone out of a single cutting and two or three rabbits. Before the cuttings were made it was a rare treat to scare a rabbit out of those areas. Based on the above results and others like them, I believe lies our small game salvation, provided we can cover enough area."—Refuge Keeper W. R. McClure, Clearfield County.

"Snowshoe rabbits have sure made a great come-back on No. 12 in the past year. Cottontails are also plentiful. I really believe the wildlife cuttings account for the comeback."—Refuge Keeper Walter Zellers, Bradford Co.

"To date seven tons of grain have been used in shore feeding waterfowl at the Pymatuning Refuge. This grain has been made available by the Pymatuning Conservation Association. To date 20 species of ducks have come in on the northward migration. The weather here has been unusually warm and the larger flocks have only rested for a short time before heading north. Canada Geese have not stopped in any large numbers this spring due to the good weather and ideal southern winds."—Refuge Keeper Burt Oudette, Pymatuning Refuge.

"During the week I trimmed 117 apple trees, 1 pear tree and 1 plum tree. Released 1 hawthorn, 16 June berries, and 18 thorn apples. Bears have broken down a number of these trees. Grouse are working on the buds now. I think this work is very beneficial."—Refuge Keeper R. H. Morningstar, Lycoming Co.

"In the last week while planting shrubs and shrub seeds on Game Refuge No. 30-A, I noticed several bear signs. Also the snowshoe rabbits are getting more plentiful around the cuttings. While planting sumac seeds in the chemical wood cuttings I observed a snowshoe rabbit and there are considerable signs of feeding done in the brush piles."—Refuge Keeper Claude B. Kelsey, Potter Co.

DIVISION GAME SUPERVISORS AT RECENT MEETING



Left to Right: Top Row—M. E. Sherman, J. C. Gilford, W. J. Davis; Bottom Row—J. B. Ross, H. T. Englert, R. Heffelfinger, F. A. Myers.

CURRENT TOPICS

"While planting game food in the cuttings on Game Lands 30 the past week I had occasion to visit a large number of cuttings that were made in January and February, 1938. I found every one that I visited had been browsed very heavily by deer. I also flushed a number of grouse in the cuttings."—Refuge Keeper Claude Kelsey, Potter Co.

"While I was going to church on Sunday morning, a run of thirty miles, I saw the following killed by autos on the highways: 1 deer, 10 rabbits, 1 house cat, 1 rat and 3 songbirds."—Refuge Keeper Wm. Matthews, Westmoreland Co.

"On the morning of the 11th, while driving along the road bordering Refuge 51-A I came upon several deer. One of them was so startled that he turned quickly and started across a bridge that was covered with snow. Its feet flew out from under it and it landed on its back in the snow. But it was up in a flash and dashed under the wire and into the refuge."—Refuge Keeper George Sprankle, Fayette Co.

We have all heard of the extremely bad temper of a she bear with cubs, and that she will fight to protect them. While the following case more or less proves that fact it is only one incident and I don't think it would be advisable to do what these fellows did.

During the fore part of March when the Department of Agriculture had its men out over the Spring Brook Mountain section of Lackawanna County looking for gypsy moth signs, George Glockler and Danny Cramer, of Gouldsboro, ran plumb into a bear. They were mighty startled, to say the least, and so was the bear. In fact she was so scared she quickly headed for parts unknown.

The men finally reached the top of the mountain where the bear's tracks and signs were in evidence all over the area. Investigation led them to the den, which was nothing but a depression in a little brush pile. In this depression were three little cubs whimpering and shivering pitifully from cold and hunger.

Now why did this bear drop her young in such an exposed spot? We will never know the true reason, but your guess is as good as mine. Perhaps because of the mild winter she didn't need any more shelter than the depression afforded.

The peculiar thing was that she made no effort to protect her cubs, which in itself gives rise to the thought that perhaps she had been so repeatedly frightened that her sense of loyalty was forgotten.

The men wanted to take the little fellows home, but knowing such action was against the law, they took several pictures instead. Next day they went back but the old lady hadn't returned. The cubs were in bad shape, but still they didn't take them. However, they did notify Mr. Schaeffer, Deputy Game Protector of Gouldsboro, who in turn notified Wilce Bailer, Refuge Keeper, of Thornhurst, who went with them next day. When they got there, the three little cubs were dead. Mr. Bailer had them mounted for the Game Commission.—Harold M. Browning.

"During the past week 1,169 hawthorn and wild crabapple seedlings, 1,000 bittersweet vines, and over 100 choke cherry (5 to 6 feet high) were planted on State Game Lands No. 54 to improve food conditions.

"I have seen many species of song birds that are very rare in this section. Where seeds were put out in sheltered places for the juncos many other species are taking advantage of it. Among those I observed were ruby-crowned kinglets, thrushes, pine siskins, (rare in this section), redpolls, white-throated sparrows, flickers, bluebirds, and others all feeding together."—Refuge Keeper Earl Smith, Elk County.

STATE GAME LANDS MARKED BY NEW ROAD SIGNS

Metal signs were recently purchased by the Game Commission for posting along roads bordering on or extending through many tracts of State Game Lands, distributed throughout the State. The signs for each tract of Game Lands bear the serial number designating the particular lands concerned. They should be very helpful to sportsmen and the public in general in marking the location of and identifying each tract of Game Lands. The signs bear the following, with the exception of the serial number, which varies with each tract of Game Lands:

STATE
GAME LANDS
No. 12
FOR GAME REFUGES AND
PUBLIC HUNTING PURPOSES
PENNSYLVANIA
GAME COMMISSION

The signs present an attractive appearance with their golden background and embossed blue lettering. They are 14 inches high and 10 inches wide and were made in the Western Penitentiary at Pittsburgh. A total of 2,000 were secured.

The Commission has purchased a total of 123 blocks of State Game Lands distributed through 53 of the 67 counties of the State. The total acreage of lands conveyed to the Commonwealth for use of the Game Commission is now 575,664.92 acres.

These signs will serve to remind sportsmen that the tract of land on which they are erected has been dedicated to a really worthwhile cause, that of restoration and perpetuation of our valuable wildlife resources. The lands have been purchased entirely from funds derived from the sale of resident hunting licenses and are being improved and developed to make them as attractive as possible to wild creatures. It is the intention of the Commission to develop them so that they will support a maximum wildlife population.

In most instances one or more sections of each tract is set apart as a game refuge wherein no hunting whatever is permitted. Refuge areas are, of course, marked with appropriate signs and posters. The balance of each tract, always the larger proportion, remains open to the public for hunting, fishing, hiking, or other recreational pursuits.

RITTENHOUSE SQUARE, PHILADELPHIA, USED AS A FOOD AND REST STATION BY MIGRATORY BIRDS

By Horace Groskin

Surprising as it may seem, many species of migrating birds may be observed in Rittenhouse Square, Philadelphia, during their northward flight in the spring and again in their southward flight in the fall. Some of them stay only a few hours or a day or two picking up a few meals and a little rest to help them out on the long journey to their breeding grounds, while others remain in this territory and raise their families.

The latter part of April and the early part of May bring the largest number of migrants to the Square, and so far this spring 42 different species were noted by the writer and Mr. Quintin Kramer, while Mr. John A. Gillespie, who has watched birds arriving in the Square for many years, has recorded as many as 68 species in a ten-year period.

It is almost unbelievable that a small Square surrounded by tall buildings in the heart of a large city, much of it covered with cement walks with comparatively few trees and bushes, with hundreds of people passing through it daily, and with children playing and dogs running about, be visited by so many interesting birds.

Last year 13 different kinds of warblers came to the Square, one of which, the Blackpoll Warbler, traveled not less than 2500 miles to get there.

Two Louisiana Water-Thrushes were present at Rittenhouse Square on May 14, 1937 very much to the surprise of the amateur ornithologists, since these birds are seldom found any great distance away from streams of water. Six different species of sparrows were also noted as well as many other interesting birds, such as the Red-breasted Nuthatch, the Winter Wren, the Hermit and Olive-backed Thrushes, and Golden and Ruby-crowned Kinglets.

Following are the species recorded in the Square last year: Herring Gull, Flicker, Yellow-bellied Sapsucker, Downy Woodpecker, Phoebe, White-breasted Nuthatch, Red-breasted Nuthatch, Brown Creeper, House Wren, Winter Wren, Catbird, Brown Thrasher, Robin, Wood Thrush, Hermit Thrush, Olive-backed Thrush, Golden-crowned Kinglet, Ruby-crowned Kinglet, Starling, Red-eyed Vireo, Black and White Warbler, Magnolia Warbler, Black-throated Blue Warbler, Myrtle Warbler, Black-throated Green Warbler, Black-poll Warbler, Yellow Palm Warbler, Ovenbird, Louisiana Water-Thrush, Maryland Yellow-throat, Hooded Warbler, Canada Warbler, Redstart, English Sparrow, Purple Grackle, Towhee, Slate-colored Junco, Chipping Sparrow, Field Sparrow, White-throated Sparrow, Fox Sparrow and Song Sparrow.

For assaulting a Federal and a State game agent, a man and two sons have been sentenced to 6 months in jail by Judge Charles G. Briggle in Federal Court at Quincy, Ill., reports the U. S. Biological Survey. A fourth member of the family, also involved, is in the hospital and will be arraigned later.

CURRENT TOPICS



FOX-HUNTING NOTES

by Newbold Ely

Thinking my recent notes from "Country-fe" and "The Sportsman" might be of in-erest to the readers of the Pennsylvania AME NEWS I give the following notes n foxes and fox hunting:

Balance of Nature.—For what seems an ge we have barked forth in this department bout that mystical sounding and little com-rehended status known as "a Balance of lature." The asininity of trying to exter-inate the fox in any section is illustrated y the National Park Service contemplating ringing in mountain lions to balance off heir elk, for nature intended them to both habit the same region. Just as a Harris-urg gentleman recently reminded "Hunting Fishing" readers that "some one wanted kill all the loons; we've read elsewhere here some one else wanted to exterminate ll hawks and owls; others say kill all snakes nd turtles. I say that we should not disturb e balance which Nature has set on various ildlife unless our previous actions have nabled some predators to become over-bundant. All wild things have their natural nemies."

Puppy Multiplication. — You could have wo million hounds from one bitch in ten ears. One bitch has say six puppies, allow-ng for losses. Three of them are bitches. he second year they and their mother make our to breed from, the third year twelve, and o on, until at that rate the number of ounds would be 2,097,150.

More Fox Diet.—The Department of Ag-culture bulletin, "Food of the Red Fox," ays "The food habits of the red fox do not iffer radically from those of its more south-rn relative, the gray fox. Where the two nimals occur together, they feed to a great xtent on the same foods in about the same elative percentages. Recent work on red xes in Michigan by the School of Forestry nd Conservation of the University of Michi-an, similar studies in New York by Cornell niversity, and the Biological Survey's in-estigations in Virginia indicate that rabbits nd mice form the most important food of is fox, these two groups making about 50 er cent of the total. Other mammals taken clude squirrels, muskrats, woodchucks, hipmunks and spermophiles, but none of ese are taken with regularity; they prob-bly make less than two per cent of the red x's diet.

Among birds, the small ground-feed-ng ones are most frequently taken, in-luding an occasional quail. Our present nowledge indicates that foxes do not prey pon quail or any other game birds to any reat extent. When red foxes live near farm-ards, some individuals are likely to make aids on poultry and in this respect may be-ome serious pests. At present there is evi-ence, although somewhat scant, that the ed fox is more inclined to make these raids than the gray fox. Vegetable foods of the red fox include a variety of fruits, nuts and some grain. Persimmons, apples, grapes, blueberries, strawberries and service berries and other small fruits are important as seasonal foods. Ripened beechnuts, peanuts and occasionally hickory nuts also are eaten. Miscellaneous animal foods of the red fox include an occasional reptile or amphibian, and considerable number and variety of insects and some carrion. Food habits of the gray fox vary in different parts of its range and depend on the availability and abundance of desirable foods. A food present in one locality may be absent in another, and consequently a certain percentage of the diet is correlated with local conditions. Further, there is change from one season to another, depending on season availability of food items. The statements on food habits that follow are the most accurate that can be made in the present state of our knowledge. Where rabbits are common, the gray fox is sure to make them one of its major foods.

There is no doubt that this fox is one of the controlling agents of rabbits, which are injurious in some parts of the country and potential pests everywhere. In the winter months rabbits compose about 30 per cent of the food of this fox. Mice form another important element in its diet, and native rats, where common, are also important among the rodent foods. Rabbits, mice and native rats make up about 50 per cent of the total diet and stand out as staple foods of the fox. The gray fox is not averse to taking small birds, especially those that get their food from the ground, and occasionally it preys on poultry. In a recent study of the contents of 82 gray fox stomachs it was found that small birds composed a little more than six per cent of all the food. Game birds were found in only three of these stomachs (in one instance a ruffed grouse, and in two cases mourning doves) and contributed little more than one per cent of the total food. The vegetable and miscellaneous animal foods of the gray fox are about the same as those of the red fox. Carrion is not shunned by gray foxes, but probably is resorted to principally when the animals are hard pressed."

Diagram of Markings.—Years ago Charlie Carter, president of the English Setter Club, as fine a sportsman as ever swung his gun up on a quail and one whom I know is now treading the broom sedge fields of the Happy Hunting Ground, used to walk across the big field separating his farm and ours and talk to me about bird dogs and I would talk about foxhounds, and whenever one stopped for breath the other would revert back to his topic. In all, the pedigrees I was shown, which meant as much to me as probably the foxhound ones I inflicted on him, I noticed that the American Field had an outline of a dog printed on the blank, like the skin of an animal stretched out, and on this you put in the markings of your dog. So on my own pedigrees I have had a space left for such an imprint and think it would be of value to all breeders to thus have the exact markings of all of each year's entry recorded. In case a hound is lost an exact description of the markings can be furnished, and it is also of interest in showing dominant and recessive characteristics in the sequence of generations.

Mazoe Gladiators.—Several times before in these columns we have chronicled a bit about the Mazoe Hunt and their intrepid hounds in Africa. We now read that along the Maquadzi River they accounted for a bush pig in spite of the ant bear earths, and right in their stride finished up by rolling over a very large wildcat. In view of the respect which American hounds have for wild cats these Mazoe hounds must be reckless gladiators that have a most astounding ability to take it.

Fuller Brushes.—Apparently the Llangibby hounds of Wales have been pushing their foxes so hard that in order to give the trophy seeking field a sop, Nature and imitation are supplying the foxes with extra brushes. As scientifically explained in "Horse and Hound" "Scientific research has established the fact of evolution, but there is more than one theory as to wherein lies the propelling force, the 'immortal hand or eye' that guides the course of evolution. Natural selection and the development and transmission of characteristics likely to help in the struggle for existence account, in broad outline, for the origin of the species, but theories fail to explain fully the intricate, cunning precision with which nature has armed her creations against each other." Be that as it may the Llangibby hounds, a Welsh pack, this season near Usk killed a fox whose brush had two brushes in its posterior section.

Keep Hands Off.—Last fall at an American Foxhound Club meeting at Bryn Mawr it was decided to have no handling of hounds in the unentered classes, and now Mason Houghland, M.F.H. of the Hillboro at Nashville, has offered a cup for the next show at the National Field Trials of the National Foxhunters Association, of which he is a director. The cup is to be given for "the best dog or bitch in either age class; all to be shown on leash, and not to be otherwise touched nor handled in the ring." This subject, of course, has two angles; from the judges' end he likes to be able to see each hound at his best without delay, and this a handler accomplishes with the greatest celerity, but often covering up or trying to cover up certain faults. Then there are the two extremes, one of the handler holding the animal practically suspended in mid air with a wrestler's grip under its neck and a half Nelson on its stern, holding it up so its legs more or less dangle on the boards, and from this we go to the no handling where the hound creeps around the ring with bowed head and tail between its legs as though just having received or else expecting a frightful clubbing, doing its best to hide behind its master's legs, burying itself in the grass or else just rolling over and being slowly and laboriously brought around on its side or back like a Yuletide log.

"My Dad is an Elk, a Lion and a Moose" said one school boy bragging to his playmate—

"How much does it cost to see him?" came the reply.

WITH THE CLUBS



A portion of the very fine sportsmen's exhibit held by the Tunkhannock Sportsmen's Ass'n, March 30 and 31.

CAPITAL CITY FIELD TRIAL
By P. L. Reagan

On April 9th and 10th the Capitol City Feld Trial Association of Harrisburg, Pa., ran another great field trial, on the beautiful Indiantown Gap Military Reservation.

Over 1500 bird dog enthusiasts attended the running of the different stakes, with the weather not ideal for man or beast, and were thrilled at the spectacular running and the highly trained bird dog performance on Game.

We are, indeed, grateful to the Department of Military Affairs, for their development of this area, as a recreational center. As a result of their effort, Pennsylvania now boasts of the largest and most ideal field trial grounds in the East.

The Pennsylvania Game Commission representatives, which included cameramen, game protectors and enforcement officers, were in attendance. Mr. Seth Gordon, Executive Director of the Commission, was an interested visitor Saturday and Sunday.

Dr. E. H. Adams, Bellefonte, Pennsylvania, noted game authority, together with a group of sportsmen from Columbia County, mingled with the crowd.

The entertainment, dance and buffet luncheon held at the Moose Hall in Harrisburg, Saturday night, for guests, was well attended and the usual jovial spirit predominated. Dr. E. K. Tingley, President of the Association, was busy at every moment welcoming guests who came from all sections of Pennsylvania and neighboring states to witness the running of the stakes.

This year the judging of the trials was in the very capable hands of Ray S. Johnson, Buffalo, N. Y., and Thos. H. Hunt, Baltimore, Md. These gentlemen did a fine job and their decisions were rendered with directness and sureness that left no doubts in the minds of the gallery that they knew what they were looking for and placed the dogs as they saw them. We are indeed grateful for their work which did so much toward making the trials successful.

The winners in the Derby Stake are as follows: first, Gangway—Black and White Pointer, owned by Ammon Kettering, Annville, Pa.; second, The Cavalier—Orange and White Setter, owned by G. D. Richardson, Dahlgren, Va.; third, Hill City Bess—White and Liver Pointer, owned by I. B. Welchors, Richmond, Va.

First in the Amateur All Age Stake was Rodney Frank's Mike—Setter, owned by Paul Howry, Shiremanstown, Pa.; second, Florendale Zephyr—Setter, owned by Virgil P. Hawse, Staunton, Va.; third, Ranger Andy Boy—Pointer, owned by C. W. Rose, Binghamton, N. Y.

First in the Shooting Dog Stake was Susquehanna Valley Lady, owned by L. R. Fleming, Sunbury, Pa.; second, Umpire Buddy's "B"—Setter, owned by Frank Vermillion, Washington, D. C.; third, Pine Creek Queen—Setter, owned by G. W. Dunkle, Jersey Shore, Pa.

The Westmoreland County Sportsmen's Association recently adopted a conservation program for 1938. Its objectives include a membership rally, a vermin contest, a fishing contest, skeet, trap and rifle competitions, a picnic and annual banquet.

KEYSTONE SETTER AND POINTER CLUB FIELD TRIALS

The annual spring trials of the Keystone Setter and Pointer Club was held Saturday and Sunday, March 26 and 27, on the club's grounds situated six miles north of Reading.

Claude Ellsworth, of Binghamton, N. Y.; Geo. Thayer, of Maplewood, N. J.; and William Arnwine, of Lambertville, N. J., served as judges. Rain was on the program for Saturday morning and when the sun came out during the afternoon a high wind not only added to the discomfort of all present but made scenting conditions unfavorable.

The Open Spring Puppy was the first stake on the program. This stake proved to be a high class affair with many pups turning in interesting heats.

Ben Nugym Mohawk, an English Setter, owned by T. A. Hann and handled by W. W. Peterson, of Clayton, N. J., turned in a real ground covering heat to take first place. Baavo Hill came down from Berkshire, N. Y., to capture second place with his pointer bitch, Milkmaid. Stoneway Sue, owned by the Kasco Dog Food Co. of Waverly, N. Y., and handled by Ed Knapp of the same place was declared the winner of third place after a second series heat with Pat of Sunnylawn, owned and handled by Charlie Forrer of Harrisburg. Many other entrants turned in high class puppy heats but were a shade below the winners.

The Junior All-Age Stake, with Geo. Thayer and Claude Ellsworth judging, was begun immediately upon the conclusion of the Puppy event. Bill Peterson, who piloted an English Setter to first in the puppy class, repeated in this event when he placed his nice running Setter, Florendale Beau's Nan, first. Charlie Forrer placed a Pointer, "I Know Now," second. Elmer Harbach, of Reading, placed Hobo's Carolina Joe, a pointer dog, third.

The All-Age with an entry of thirteen Pointers and seven English Setters proved to be the most successful stake of this nature ever held by the club not only from the standpoint of numbers, but also by the quality of the dogs entered and the races they turned in. Middleburg Dan, the outstanding Pointer of L. R. Durborow captured first place. Miss Lottabrook Joy was brought down from Horseheads by her handler, Bly Pitcher, to win second place. She is owned by D. L. Young, of Comillis, N. Y.; E. G. King, of Annville, Pa., placed his Setter dog, Beaumark, third. Vestal Hills Scout, owned and handled by Leslie Daniels, of Binghamton, N. Y., and Sylvan Joe, owned and handled by Mark Spacht, of Wiconsso, Pa., turned in smooth running ground heats but failed to show on birds.

Geo. Thayer and William Arnwine had a real job on their hands when they judged the Open Shooting Dog Stake but they did an excellent job. There were twenty-four entried in the event. Frank of Sunnylawn excellent bird finder that he is, won first place for his handler on a beautifully located

find on a liberated pheasant. E. G. King, of Annville for the second time in the same day placed his dog, Beaumark. This time it proved to be second on the strength of a nice find on a pheasant. Monte Reber, of Reading, won third place with his Pointer Dog Tip's Commonche Proctor. This dog, running in one of the later braces, checked in with a staunch stand on a pheasant.

VENANGO GROUSE TRIALS

The Venango Grouse Trials were started April 2, 1938, and concluded on April 3, 1938, with headquarters at the Fryburg Inn, Fryburg, Pa., with the largest entry of dogs and the largest gallery following of any grouse trials that have been run in the past twenty years. About twenty five grouse were found each day and quite a lot of high class bird work was witnessed.

The puppy stake was won by Lehigh Pete, setter dog owned by B. W. Druckenmiller, Pittsburgh, Pa., and handled by Fred Druckenmiller. Second, Doc Red, setter dog owned and handled by Fred Kay, New Castle, Pa. Third, Pokadot Kay, setter bitch owned and handled by Larry Tuttle, Johnsonburg, Pa. Fourth, Florendale Hazard, setter bitch owned and handled by J. G. Castle, Lockport, N. Y.

First in the Junior All-Age Stake was Racketeer Beau, setter dog owned and handled by Lawrence Cignetti, Apollo, Pa. Second, Gay Sandra, setter bitch owned and handled by Howard Enterline, Greenville, Pa., Third, Greenville Dutchess, setter bitch owned and handled by Joseph Anderson, Greenville, Pa.

The All-Age Stake was won by Duce of Clubs, setter bitch owned by Sam Light, Punxsutawney, Pa., and handled by Eugene Galloway, Grove City, Pa. Second, Colonel Scugog, setter dog owned by Dr. C. F. DeVries, Flint, Mich., and handled by Eugene Galloway, Grove City, Pa. Third, Surgeon Mack, setter dog owned and handled by Robert Lamberton, Franklin, Pa., and Rodney's Fanny's Ghost, setter bitch owned and handled by Harold Walley, New Kensington, Pa.

VALLEY BEAGLE CLUB'S FIELD TRIAL

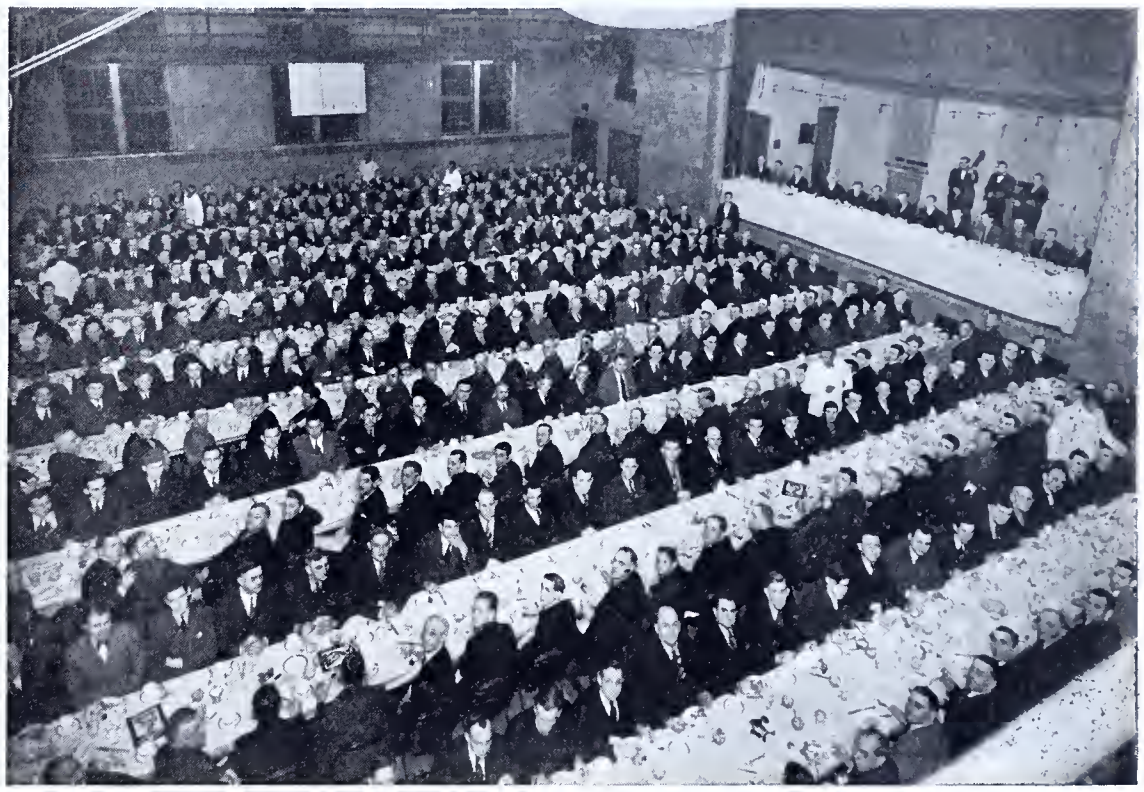
Extremely bad weather cut down the gallery at the Chartiers Valley Beagle Club's field trials held recently on the Pollock farm, east of Canonsburg, Washington County. Only five dogs were entered in the 13-inch class and nineteen in the 15-inch class.

The winners in the 13-inch All Age Class were as follows: First, "Weaver's Pat," owned by L. E. Weaver, West Brownsville; second, "Rosscraft Renown," owned by A. Lloyd Rossell, Canonsburg; third, "Rosscraft Bell," owned by A. E. Cole, Venetia; fourth, "Pump Gun Tinker," owned by W. O. Wright, Coraopolis; reserve, "Rosscraft Ramona," owned by A. Lloyd Rossell, Canonsburg.

"Rosscraft Bobby," owned by A. Lloyd Rossell, Canonsburg, was first in the 15-inch All Age Class; second, "Edward's Babe," owned by E. E. Edwards, Brownsville; third, "Rosscraft Delano Rocky," owned by Wallace McFall, Houston; fourth, "Peanuts," owned by W. M. Hughes, Carnegie; reserve, "Kyle's Jack," owned by John Kyle, Burlettstown.



Members of the Sayre Sportsmen's Ass'n at its annual banquet held last month. This up and going group has been doing splendid work in Bradford County.



Over 550 men and women attended the annual banquet (shown above) of the Lycoming County Consolidated Sportsmen's Ass'n last month. Awards were made for the largest fish caught and the largest deer killed during the last season. Victor Cody, one of the outstanding wildlife photographers in the United States, showed movies and give an interesting talk.

Wives and sweethearts of the members of the Tarentum Sportsmen's Club are shown (below) among the guests at the fourteenth annual banquet held by this club. More than 400 people were served a fine dinner and enjoyed the program which followed.



WITH THE CLUBS



Rabbits trapped by Montgomery County sportsmen and released on open shooting grounds.

PENNSYLVANIA GROUSE TRIALS

Ice and snow storms marred the holding of the spring gathering of the Pennsylvania Grouse Trial Club last month. Due to the inclement weather bird work was practically out of the question as nearly all the grouse were in the trees. Only a comparatively few birds were flushed each day.

The puppy stake was won by Lehigh Pete, setter dog owned by B. W. Druckenmiller, Pittsburgh, aP., and handled by Fred Druckenmiller. Second, Loleta Sally, setter bitch owned and handled by William McCracken, New Kensington, Pa. Third, Florendale Hazard, setter bitch, owned and handled by J. G. Castle, Lockport, N. Y.

First in the Junior All-Age stake was Ho Beau's Hobo, setter dog owned by George Hawk, New Kensington, Pa., and handled by S. A. Magee, Harrisville, Pa. Second, Had's Old Gold, setter dog owned and handled by John Hadaway, Flint, Mich. Third, Rackateer Beau, owned and handled by Lawrence Cignetti, Apollo, Pa.

The weather being too severe to allow bird work sufficient to place a champion that stake was declared an All-Age with the following results: First, Sam L's Skyrocket, setter dog owned by Sam Light, Punxsutawnew, Pa., and handled by Eugene Galloway, Grove City, Pa. Second, Argeon Mack, setter dog owned and handled by Robert Lamberton, Franklin, Pa. Third, Joy Gay Girl, setter bitch, owned and handled by John Seward, New Castle, Pa.

Let us hope the boys have better luck next year.

The Montgomery County Fish, Game and Forestry Association recently embarked on an extensive program of nature education in the public school.

BEAVER FALLS BEAGLE TRIALS

Three hundred sportsmen witnessed the first field trial held by the Beaver Falls Beagle Club, Saturday, March 19. Fifty-one hounds were entered in the three classes. The winners of the Derby Class were: first, Hummel's Bird, Leonard Hummel, Eestvale; second, Mayfield Putsie, Theo. Schutte, Beaver Falls; third, Bernauer's Butch, J. Beraner, Beaver; fourth, Flickner's Teddy, Ed Flickner, Beaver Falls; reserve, Miller's Ring, Joe Miller, Eastvale.

In the 13-inch All-Age Class the winners were: first, Patty Lou, L. G. Peters, Beaver; second, Tinker, Ed Twigg, Neville Island; third, Wright's Nipper, Wm. Lannigan, Koppel; fourth, Hummel's Queen, Leonard Hummel, Eastvale; reserve, Kircher's June, Earl Kercher, Beaver Falls.

The following won the 15-inch All-Age Class: first, Mayfield King, Theo. Schutte, Beaver Falls; second, Tilley the Toiler, Harry Davis, Beaver Falls; third, Hummel's Duke, Leonard Hummel, Eastvale; fourth, Onangerai's Queen, Ralph Mangerai, Kopel; reserve, Tyhoe Bing, Lloyd Jones, Beaver Falls. After the trial a spaghetti supper was served at the White Township Fire House.

The Upper Dauphin County Game and Fish Association is sponsoring a street carnival to be held at Lykens, Pa., June 15, 16, 17 and 18. All proceeds of the event will be used to further wildlife restoration and conservation in Dauphin County.

NEW CLUB

Juniata County Sportsmen's Association. Meetings held every second Monday of the month at the Courthouse, Mifflintown, Pa.

The Western Schuylkill Sportsmen's Association has spent considerable time and money during the last year raising pheasants and fish, and establishing a game refuge.

A FEW FACTS

Pertaining to the ELK RUN HUNTIN CLUB up to and including the year of 19

First organized in the year 1903 under t name of the Cedar Run Hunting Club, mo ing from place to place until its present a permanent location was purchased and tablished in the year 1919. A charter w secured and the club was incorporated unc the name of the Elk Run Hunting Club the year 1928.

During these years 10 bears and appro mately 85 deer have been killed by t various members of this club, while the nu ber of small game would reach well into fo figures.

There has never been a hunting accid of any kind, possibly due to some of t following reasons: We do not carry loac guns in automobiles; all loading and unlo ing of guns is done outside the cabin a every member is supposed to know his o gun and handle it in a safe and careful m ner at all times.

No member, while connected with t club, has ever been under arrest for a hu ing or fishing violation and, as far as know, no member of this club has ever b under suspicion as a violator of either game or fish laws by a Fish or Game P tector.

We value this cabin not only as a hunt and fishing camp, but as a place where are free to bring our families and frie for pleasure or recreation.

As for hunting, it has been said, ev real man has somewhere within him, hunting instinct, but its not alone to kill t hunters go forth year after year, its the lowship and love of camp life combined w the great out-of-doors where nature goe long ways to make up the rules.

May it be said that this club wishes co-operate with those in authority at all ti for the proper protection of wild game fish as well as our forests and streams.

And may it further be said that while deeply mourn the loss of those worthy m bers whom the Almighty God has seen to remove from our midst from time time, and while the sympathy of all mem goes out to the bereaved ones, may we e strives to live up to our past record principles, chiefly that which has alw been in evidence,—ALL FOR ONE A ONE FOR ALL.

The Bethlehem Game, Fish and Fore Association at a well-attended meeting vo to admit junior members to the Associat Any boy or girl up to 16 may join the ganization at a minimum membership

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The Hiawatha Hunting and Fishing C of Analomink, Pa., reports it was active year in extinguishing forest fire, plan trees and aquatic plants, and in feeding restocking.

The Keystone Fish and Game Associa reports a fine program of restocking feeding.

The Broken Straw Rod & Gun Club Yongville, Pa., started a membership d in January. In two months it increased membership from 14 to 904.

WITH THE CLUBS

EWS FROM THE PENNSYLVANIA RIFLE AND PISTOL ASSOCIATION

By C. F. Robbins

A meeting was held on March 10, 1938, ith Maj. Gen. E. C. Shannon, Lt. Col. hillips and Maj. Hoban, of the 28th Div., ol. Zierdt, Maj. Smith and Maj. Kernaghan the Dept. of Military Affairs, Capt. T. W. cAllister of the American Legion and C. . Robbins representing the civilian hi-power ooters, G. W. Thompson and G. A. Hoffan representing the small-bore shooters, to ordinate the efforts of the various departents interested in planning this year's State hampionship Matches at Indiantown Gap ilitary Reservation on June 18th and 19th. The following information resulted from e meeting: Mess will be served by a terer, and blankets, quarters and return avel will be furnished each contestant on e .30 Cal. teams. Twenty teams will be ade up as follows: Eight National Guard, o American Legion, one Officers Reserve orps, and nine civilian. This will make it cessary to run the teams in two relays. he match will carry a full list of trophies d medals, which will be awarded to high ams in the match and high teams of each ass; individual trophies and medals will be arded similarly. Civilian teams will prode their own ammunition for 200 and 300 rd firing. Match ammunition will be furshed for the longer ranges. Hand-loaded mmunition is permitted at the short ranges. ntries to be secured, checked and certified the Pa. Rifle and Pistol Association.

SMALL BORE NEWS

By G. W. Thompson

The interests of the small bore shooter ere well taken care of at our meeting with e representatives of the Dept. of Military fairs and the 28th Division, at Harrisburg, March 10, 1938. As the result of the meetg the State Ass'n will be permitted to conct a small bore match in conjunction with e big-bore matches to be held at Indianwn Gap, June 18, 1938.

As the military are not interested in the all bore shoot the State Association will required to conduct it from start to finish. ur Vice President, Mr. Frank C. Hoppe ll be in charge. Tents, cots, and blankets ll be furnished free. The only expense ll be transportation, mess, and entrance s. The reason that the small-bore shooter required to pay for these items this year the fact that they were not considered en the present budget was formed. Next ar we think the picture will be different.

At the meeting in Harrisburg a committee as appointed to get up a series of indivl and team matches to start outdoors as on as the weather permits. The idea being have all the clubs in each district shoot ainst the clubs in its own district, and the nner of each district, shoot a match to certain the State Champions. It has been ggested that these consist of five man ams.

Will the Club Secretaries please let me ow if their clubs will participate? Also w many individual shooters will be intered in individual matches?—Send above inmation to—Frank C. Hoppe, 2314 N. 8th eet, Philadelphia, Pa.

PISTOL NEWS

The following is from a letter received from Mr. Thomas A. McGinley, our Vice President in charge of pistol shooting, Sewickley Heights, Pa.:

"There is one thing I have suggested to the National Rifle Association that I think is important, and that is the qualification standards now set for pistol "Marksman"—"Sharpshooters"—and "Expert" as entirely too low. All standards of present-day shooting have increased very materially and I think that the low qualifications for each of the above rather cheapen the medals than otherwise, in fact, I know a great many men who have qualified who do not even care to have one of the N.R.A. medals. For example, the qualification mark for "Marksman" is, I believe, 195. This should be increased at least to 225. I do not care much what the standards are, except that I feel confident they should be raised. Whereas pistol "Expert" today qualify at 255, I think this should be increased at least 10 points—perhaps more. In our October 12th Match this year at the Stonedale Range, there were very close to 200 people marksmen; thirty-seven of them could have qualified as "Experts"—and out of the entire lot there were mighty few who could not qualify for something—even "Marksman." This is rather an indefinite suggestion, but I think the Rifle Association could raise the standards very easily—and whatever they would decide to do, I am sure would be acceptable to marksmen throughout the country."

Deer in the section of Mt. Alto, Franklin County will miss the kind administrations of Dr. & Mrs. Edward Martin, the former recently deceased.

One time State Commissioner of Health, and famous Spanish American War surgeon, Doctor Martin was inordinately fond of wild creatures and set aside his homestead near Graftenburg Inn as a deer sanctuary. To this day as many as 200 deer have been seen on the vast open grounds surrounding the house.

Sportsmen of Altoona put on a bang up Wildlife program in its public schools. Twenty-four High School students were sent into the grade schools to give talks on conservation. Several of the older students also gave brief radio addresses on different evenings. Wildlife posters made by the pupils were displayed on all school bulletin boards, and in business places throughout the town. Trophy cases containing mounted birds and animals were placed on exhibition with appropriate literature describing them. The biology teachers devoted one day to teaching the basic principles of conservation, and representatives of the Game Commission delivered addresses and showed motion pictures on wildlife.—C. C. Brennecke, Game Protector, Blair County.

The Wing Gap Rod and Gun Club, Northampton County expects to carry on an extensive pheasant propagating program this summer.

Over 600 members attended the Annual Banquet of the Canton Rod and Gun Club recently at which Vernon Bailey, famous naturalist for many years affiliated with the U. S. Biological Survey, was the principal speaker. At the conclusion of the program prizes were awarded for outstanding trophies in fish and game as follows:

Longest brook trout. Leon Pelton, first. Marshall Hoffa, second.

Largest brown trout. Halden Bellows, first and Richard Earley, second.

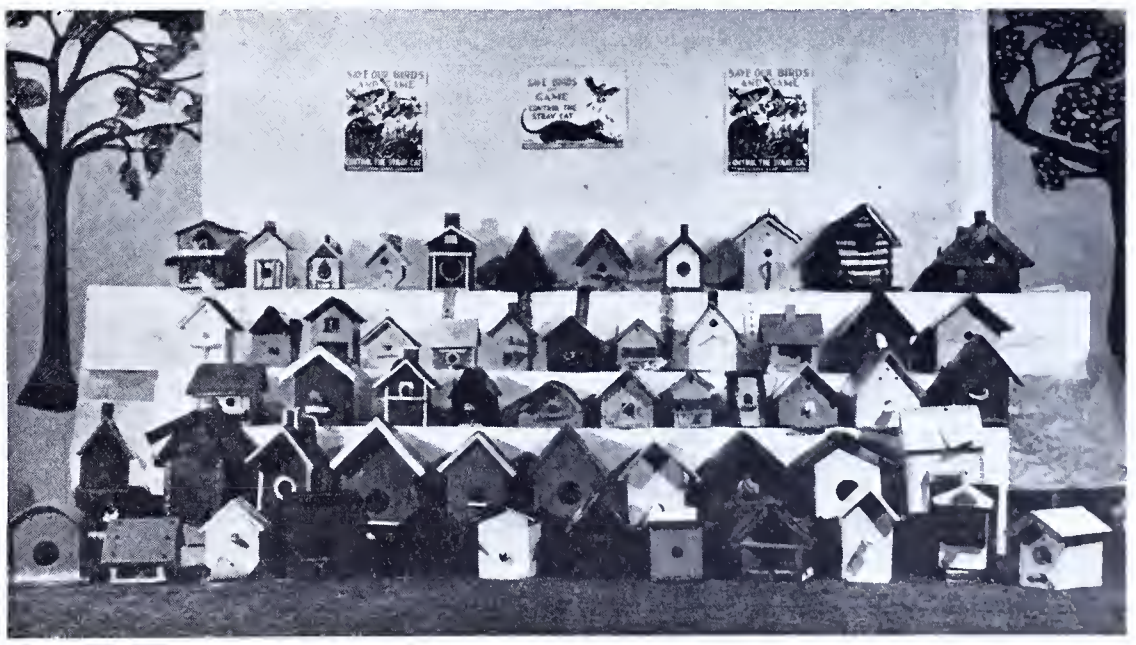
Largest pike. Andrew Campbell.

Largest pickerel. Paul Palmer, first and Mace Frecman, second.

Largest deer—170 pounds. Lloyd Williams.

Largest number of crows killed—163. Dr. C. M. Bradford.

In addition to the above prizes about a hundred door prizes, contributed by merchants, were awarded.



Sixty boys competed in a bird house building contest in Fayetteville recently under the sponsorship of the Woman's Club. Several cash prizes were awarded the winners. After the contest local residents purchased many of the houses.

SCATTER LOADS



Pups of a wild dog, born and raised in a hollow chestnut log. Their mother must have accounted for much game as the pups were in good condition.

The Rev. T. W. Smith, of Red Rock, provides a pail of apples a day for a small herd of deer. Only once in several months did the deer fail to come for their feed and that was when a small grass fire apparently frightened them.

A tall one comes from Franklin, Massachusetts. Nineteen women were invited to a party to which they were to bring something which had no value. Of the nineteen a total of thirteen took their fox-hunting husbands.

The State of Colorado will start a school for the training of Game and Fish Wardens in 1939. The requirements for enrollment are much the same as those of the Pennsylvania school.

The State of Minnesota is conducting an examination of the stomachs of foxes. Forty have been examined so far and revealed an amazing variety of items. Burlap bags, snake skins, crickets, pig bristles, hazelnuts, moss, poultry skeletons, straw and the teeth of rabbits have been found.

About 15% or 15,000,000 of the 130,000,000 people in the United States hunt and fish. They spend in excess of $1,000,000,000 annually to enjoy these sports.

Safety is a prime requisite with a colony of beavers in a swamp north of Lansing, Mich. While building their house they gnawed down a "No Trespassing" sign and placed it on the side of their home. The sign reads, "No Trespassing, Shooting Preserve, Patrolled."

It costs as much as $1,200 a year to feed a wolf, it is announced by the U. S. Biological Survey, but there have been wolves who have killed as much as $5,000 worth of poultry, game animals and livestock in a single year.

The young of some birds take to the air very soon after they come out of their shells and are able to follow their fast-flying mothers like real veterans.

Divorce is not a problem with geese. Once they choose to be mates they remain with each other until death does part them fifty years later, provided the hunter does not get one or both before that.

For some unexplained reason ruffed grouse often "go crazy" in the fall. During these insane moments they walk into towns, fly through windows, bump against walls, go around in circles and otherwise act as if they were in a daze.

Which is the right bank of a stream? That depends on how you look at it, argue many, but there is only one way to look at it and that is to look downstream and there you are, the right bank is to your right and the left bank to your left. This is the way woodsmen and the U. S. Army arrive at which bank is which.

This yarn comes to us from the Parkers Landing district and can be taken as gospel truth. It seems there is a crow up in that vicinity suffering from the ill fortunes of poor shooting. At some time during his career, he was shot at and the shot carried away a part of his beak. Mr. Crow was promptly ostracized by his vain brethern. Tossed from the "400" of the Crow society. Mr. Crow attached himself to school children in the district. Each day he joins the kiddies as they skip to school and he frolics with them until the bell rings. Then he hangs around for recess and the noon hour. At noontime he shares their dinners and again romps with them. He'll pick the cap off a boy's head and drop it at some distance. Being a right smart bird, he learned early in the game and the kids liked it. They even have him saying words such as "hello" now. In the evening when school is out he accompanies the kids home from school. In his crowish mind he has reasoned that he'd rather be friends to the kids than romp with his disdainful brethern.—Butler Eagle.

That eagles attack children is supposed to be bunkum, but E. Lee LeCompte, State Game Warden of Maryland, says he knows of a case which occurred during the Wildlife Conference at Baltimore recently.

Two eagles attacked a little girl while she was playing in her backyard. One was shot the other escaped.

A PACIFIST LOOKS AT RIFLE SHOOTING

(Continued from Page 9)

my Board to let me put a range in our 'Y'—but I don't see where the money would ever come from. How do you get the rifles and equipment? Do the boys help pay for all this?"

"Not at all," I declared. "I had to battle with our Board to show them that there is no more reason why the boys should pay for the rifles than for the basketballs they use. It is all equipment needed for a well-rounded boys' work program. Hobbies and crafts are as important as gyms and banquet tables. We use riflery for a definite reason in character building just as much as a Hi-Y club leader uses discussions to attain his ends with these boys."

His eyes opened wide. Having been trained as a physical director he couldn't see how marksmanship could be used for any specific treatment of a boy's personality to the degree that he could use setting-up exercises, for instance, for specific physical purposes. We adjourned to the office and had it out.

"Let me tell you in general, first, what I have observed this hobby of rifle practice to do for boys. Have you ever run across boys who were cock-sure of themselves? You tried to show them how to do a certain thing like shooting free throws in basketball but they had their own way and wouldn't change? We have those fellows on the range too. They have been used to shooting at tin cans and rocks while walking along the river, and don't take readily to shooting in the prone position, using a sling, holding their breath, or anything else we teach. They come on the range thinking they don't need any instruction, and fail miserably. We get them to try the rules for accuracy and they find the sling does help. Pretty soon they are asking for advice—all they can get. This willingness to learn and take the advice of one more skilled, is worth a boy getting it into his system. He finds there really is a right way, a scientific way, to do things.

"Second, you say in your field that it prevents drownings in a community if you teach as many boys as possible how to handle themselves in the water. We say that it prevents accidents and deaths if we teach boys the dangers of fire-arms and how to handle them safely. When a boy sees how that bullet he shot goes through the wood backstop boards starting with a nice round hole and expanding till it tears out big chunks of wood on the other side, and then how it flattens out thinner than a dime against the steel plate, he gets a wholesome respect for the danger connected with firing that bullet at the wrong object. My own father was killed in '32 by a boy of eleven playing with an 'empty' pistol. It's always an 'empty' firearm that does the killing; we teach boys never to point a rifle or revolver toward anything they do not want to shoot at to hit.

"Then too, we teach honesty in this hobby. Boys shooting for the higher qualifications often forget to tear up their targets, and other boys may see the possibility of turning these in as their own. Rarely has a boy been willing to do this—I think he would be reminded every time he looked at his medal that he was dishonest. But when younger boys have, it has afforded us an unique opportunity to talk with the boy about honesty, or to have a discussion in his class. Instead of being disturbed by these incidents, we grab onto them as lucky breaks to give us a natural opportunity to discuss personality traits and character values.

"A fourth value lies in a boy's learning that a thing is right or wrong. In school if he gets a wrong answer he may get a 75 for effort or method or whatnot. Here he finds the shot is a bullseye or it isn't. Say a boy needs only his tenth target with five bullseyes to get his next qualification, and the Father and Son dinner is tomorrow when the medals will be awarded publicly. He makes only four of the five count. Do you stretch your conscience and tell him you'll call the fifth one a bullseye? Not at all. It isn't, and you both know it, and he thinks more of you for being honest about it. He learns something about being square in the face of the temptation to cheat. I have seen boys in this situation throw their targets away without even bothering to ask the Instructor for a decision, even when the hole is merely a hair-breadth away.

"When he gets into this situation, he is in a most unusual 'learning-situation.' He is almost over the top but can't quite make it. Immediately a number of factors take on large proportions for character building. He learns first to stick to the game—I have stayed with individual boys alone till after midnight on the range because they wanted so much to succeed they wouldn't quit. Also, I've seen boys at these times realize for the first time the cost to their bodies of smoking, loss of sleep, giving way to temper, worrying, and the like. They are more convinced by their lack of steadiness than by any preaching they've heard.

"He begins to learn, as he tries desperately to make the higher scores, that a very small thing can play a very large part. An empty shell under his body as he lies prone may distract his attention just enough to make that last shot miss by a hair. Or the slight movement of his neighbor, a raised voice in the room, a jar, these may throw him off. He gets crabby at first toward anyone who does these things. Next time he sees someone else trying to do his best, he remembers, and is ever so considerate of the other fellow. In all the crafts, hobbies and sports, I have found nothing to compare with the sportsmanship that is developed in a boy on the rifle range.

"There is one use of riflery in the treatment of problem boys that rates higher with me than all these values I have mentioned, however. It is seen in dealing with the boy who has an inferiority complex. By 'problem boy' I do not necessarily mean a delinquent boy. As you know well enough, every person must win his own self-respect and gain self-confidence. The average boy does this through gaining a name for himself in athletics. If he cannot gain recognition in this field, he often turns to his studies and tries for the honor roll.

"But many boys can excel in neither of these areas of endeavor. They find themselves unable to compete with good athletes and students. Yet their personalities become warped unless they achieve success in some field. I turn to rifle shooting as a life saver in dealing with this type of boy. Often I tell the Instructor the story of such a lad before introducing them to each other. The Instructor is asked to go out of his way to encourage the boy, give him extra attention, make sure that he gets a kick out of shooting and comes back for more—that he eventually succeeds in passing the qualifications that will enable him to receive a medal. Here the medal is the goal we are after for the boy. And when he gets it and shows it to the fellows who thought he was not good for anything, he goes up 50 per cent in his own estimation as well as in theirs. He thus gains status in his group and doesn't have to 'act cute' or make himself a nuisance to secure the attention he craves—and must have, to be normal."

My college pal was convinced, and needless to say, was able to convince his Board to install a range too.

* * * *

This paper was written, as far as the ideas herein are presented, over twelve years ago. I have reworded some of the sentences to bring it up to date. But twelve years of experience has not changed my thinking on a single idea. I have watched my own attitudes as I went through the process of establishing three different ranges in different cities, in addition to a fourth range at camp. In this time we have had well over a thousand youngsters going through the stages of learning to shoot accurately and safely. There has never been an accident; I have never heard of one on a range. Having only recently left the Y.M.C.A. to work entirely in the field of dealing with delinquent boys as Executive Secretary of the Big Brothers Association in the Chicago area, I have taken steps to start another range—I can't work without one now.

Harold D. C. Kinney.

I WENT TO TOWN

I went to town last night and rode
A street so brightly lit
That glaring lights soon dazzled me
And I got lost in it.

Today I found a still, green wood,
Seldom traversed by men.
Alone I walked and dreamed awhile
And found myself again.

Emma Keiler (Tony's Scrapbook)

THE HUNTER'S CREED

He who hunts and kills not all
May hope to hunt again next fall.
But he who kills all that he can
Is neither sport nor gentleman.

"THUNDER WINGS"—By N. R. Casillo

(Continued from Page 3)

Well, when we encountered our first bird of the day it was in an open deciduous wood. As the vigorous take-off of the cock scattered leaves almost into our friend's face. he gasped, froze into helpless inaction and gazed after the rapidly disappearing bird in open-mouthed amazement. After the prospective victim had thundered beyond gunshot the hunter turned to me and said: "That was an impossible shot." Whereas he had had all the chances in the world. This happened several more times before he gave up in disgust and returned to camp.

Obviously, the remedy for this was to hunt with an unloaded gun until he had completely overcome the panicky feeling that seized him when a bird flushed. Later when I suggested it to him he laughed and asked if I was trying to make an ass of him.

I have seen cracker-jack quail shots hopelessly tied up by grouse, and yet it is the concensus of those in the know that the latter has a less spirited take-off than the jaunty bobwhite. The quail hunter in grouse cover, unless he has also had experience with the latter, soon discovers that the grouse is the master dodger of them all; taking advantage of every natural obstacle or topographical irregularity.

To the uninitiated the speeding grouse hurtles through tangled thickets or thick evergreen boughs with seemingly suicidal abandon. It uncannily places the largest available tree between its tender hinder parts and the hunter; it whirrs behind rocks or over a slope. All this it does methodically with both eyes wide open.

A couple of years ago I killed a bird that was going absolutely straight away. When I picked it up I expressed my amazement at finding that a single pellet had penetrated its right eye, coming out near the top of the head. A post mortem indicated that that one shot was the only one it contained.

"Now, how in the deuce did that happen?" I asked a companion who had hunted grouse long before I was old enough to tote a popgun.

"Easy," remarked the old timer. He had his head turned looking back at you."

I believed him and still do, otherwise, how can the bird maneuver through thick cover and at the same time consider the position of the gunner. It surely keeps an eye on both.

Grouse are not always found in dense cover. Indeed, some of the very best shooting I've ever experienced was on a hillside practically devoid of trees. There were shrubs of a sort and dead bracken, forming a dense ground cover not more than knee high, albiet the trees were some two or three hundred yards away. Upon flushing, the birds rose well above the growth, and nine out of ten times thundered off down hill. Their abundance was remarkable (and still is in spite of heavy shooting), for one could walk out a dozen or more birds within a radius of a couple hundred yards. With a companion and a dog it's no trick at all to bag one's daily limit in ten or fifteen minutes, providing you can hit them.

In locations of this type it is best for one gunner to hunt a short distance ahead and below his companion, say, about a hundred or so feet. The one below is usually presented with a lot of easy shots, for he hears the take-off of the birds flushed by his companion up above and has time to get set and literally plaster them as they pass by. I have had birds pass me at so close a range that I could actually distinguish the color of their eyes, and invariably had to wait for them to gain more distance so as to prevent utter mutilation. On one occasion, George Short with whom I frequently hunt, had the downhill position and brought down his limit with the first two shots fired. Incidentally, it was the first double that I have ever seen scored on grouse.

I shall never forget the time that I shot three grouse without moving from my tracks, and just as fast as it took me to reload and fire an old single twelve.

It was still early in the morning after I had bagged a nice bunch of gray squirrels, so I decided to leave the upland and get down into an adjacent swamp to knock off a rabbit or two. I might add that in that part of New Hampshire where I was hunting, it was considered a real feat to kill a snowshoe rabbit or varying hare. But the consummate ease with which I had shot the squirrels enflated my boyish egoism to a thoroughly disgusting degree, as I look back upon it now, so naturally I thought the rabbits would be duck soup, to use the vernacular.

At the edge of the swamp I was startled by the noisy rise of a covey of grouse, which to my amazement, flashed into the branches of a nearby white pine. There they arrayed themselves, stretched their necks in my direction and clucked foolishly.

After recovering from the shock of seeing such elusive and highly prized game at such close quarters I began to shake with a serious attack of buck fever. I did manager however, to aim the single in their general direction and pull the trigger.

When the black powder smoke cleared I perceived grouse number one lying breast downward on the pine needles. You can well imagine my sensations as I reloaded and fired two more times before the survivors took wing. Now I know that it was a bunch of demoralized young birds at whose slaughter I still blush.

Again, I have observed them in that same cover so wild as to flush when still far beyond range. As a matter of fact, most frequently I'd hear only the muffled boom of their flashy get-away.

Have you ever noticed how a sitting grouse goes tearing off at the instant it is sighted? Uncanny I call it; yet, in the case of old birds I've never seen it fail.

Many a time I have looked in the direction of a sitting grouse and it would continue to sit tight until the eyes perceived its materialization. Invariably, at the moment of perception that all-familiar boo-r-room would smote the silent woods and presto, the bird was gone.

When perched in a tree it always selects a spot on a limb next to the trunk. Its detection entails a complete and careful scrutiny of the tree in question, foot by foot, following the outline of its every part, to the tip of each branch and back again to the trunk, only to repeat the tedious process again and again. At last, if you are lucky, you will glimpse the bird as it goes rocketing off to more healthful territory.

Here are a couple of suggestions that I'm sure will help one who aspires to shoot this wary game. I'm certain that they will help the beginner, and also the experienced gunner if he is not already in the know.

It is well to remember that at the take-off a bird is rising, and that if you shoot then the chances are more than even that you'll miss. Wait until it levels off, unless an obstacle is in the way or thick cover imminent.

Also, a grouse in flight shows deceptive length, the tail being so long that an inexperienced hunter nearly always misjudges his shot. Lead by a good margin, aiming well ahead of your game if you desire to hit the vulnerable spots of the breast.

A grouse will carry a lot of lead unless the load is placed in the right spot. Even now you can probably recall cases of grouse carrying on after having left behind large portions of their anatomies to tantalize and chagrin you. In such cases most birds are lost, and a dead bird lost is wasted.

During deer season my companion picked up a live grouse whose left leg had been shot away. Upon examination it was found that most of its abdomen was gangrenous. After showing it to me he mercifully wrung its neck. It doesn't take much of an imagination to picture the vast loss of birds occuring annually. Let's give our noblest game bird a break by bettering our marksmanship and thereby making more clean kills.

FOOD HABITS OF THE EASTERN SKUNK

(Continued from Page 13)

It is evident from the work at Northville that the skunk may or may not be a destroyer of eggs, poultry, and birds. There are differences in the individual characteristics of skunks just as there are differences among men. It has been observed that an irritable and vicious skunk kept in captivity will produce young that are actually "chips off the old block." It is possible that an animal that is a killer may produce offsprings with tendencies toward this same characteristic, either through inheritance or experience, and possibly both. Such skunks should be exterminated, but it is no more logical to kill every skunk because one kills chickens or eats eggs than it is to butcher an entire herd of dairy cattle because one cow becomes a vicious kicker.

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*The following assisted the writer in gathering information for this work-Paul Dalke, George Kilker, W. H. Long, Jr. and Roy Seeder.

*The Michigan Conservation Department cooperated in this study.

"THREE CLAW"

(Continued from Page 14)

the family let him out one morning and he plunged into the swamp and was gone. When the family got up one morning about three weeks afterward, there was Andy stretched out under the porch where he used to sleep with the dog. The women were glad to see him and called him out for breakfast. He was a sorry looking bear, all plastered up with swamp mud and his nice coat rubbed bare in spots. But the worst of all was a big scratch right across his face, all swollen and inflamed. The men folks laughed and said: "Been love making and that's what the lady thinks of him." But the women babied the big brute and washed his poor face with warm water and soap and pasted adhesive plaster over the cuts.

Andy only stayed a few days until he was well filled up with the good food they gave him, then he went away again, to return late in November much larger, but strange and sullen. He moved away and growled when anyone came near him, no longer their nice Andy, but a wild animal again.

The family never saw Andy again but they heard plenty about him. He roamed about overturning bee hives, killing a calf here, snatching a pig there. Always they could tell him by the track he left. His right foot with three claws gave him away.

When "Three Claw," as the folks came to call him, was five years old, he was a huge bear. Hunters who tried to track him down said that never was such a big bear known in Pike or Monroe counties. They tried to trap him or hunt him with dogs, but "Three Claw" was too canny to go into a trap and he feared no dog. Usually he waited for the dogs and slashed them to death or buried himself in some deep swamp where dogs feared to follow. No one ever drove him into a den and no dog could tree him.

His depredations made him a sort of bogyman. Mothers used to warn their children to be good or "Three Claw" would come and get them. He was often seen by people and his size was magnified until if the tales told could be believed, he was a big as a grizzly.

"Three Claw's" familiarity with people made him very bold. He would come to a place at night and raid a smoke house or a bee yard, eat the hams or bacon or fill himself with comb honey. Lumber camps were easy for him. One morning the cook in a bark camp along the San Vantyne got up to prepare breakfast and when he went to the cook house there was "Three Claw" sprawled out on the floor fast asleep, almost filling up the doorway. Around him were bursted bags of flour, half devoured hams and general destruction of the camp supplies.

The affrighted cook ran shouting into the camp, but before anyone could get out with a gun, "Three Claw" had disappeared into the woods.

For a number of years, this great bear lived in that country, growing larger each year and adding to his reputation as a bad actor.

Finally, during the hunting season of 1925, a man at Dingman's Ferry, Pike County, came home from a morning hunt. While he was eating a belated dinner his sixteen year old son took father's rifle and went out along the hillside above the village. A lot of clumps of white pine grow along this hillside. The boy climbed through the fence and walked about a hundred yard, when a giant bear came out from behind a clump of pines, not more than thirty yard away. With rare presence of mind the boy drew a quick bead on the bear's head and dropped him dead with a .44.

When the youngster saw that the bear was dead he walked carefully around it until he saw its right foot with the three claws; then he ran home shouting, "I got Three Claw! I got Three Claw! Bursting into the house, he could hardly talk coherently, but made his father understand that it was something about "Three Claw." Running up to the field with the greatly excited boy, the father saw that he had really shot the great "Three Claw" and that the big bear was actually dead.

The neighbors gathered around and some one got a team and stone boat and they hauled the big bear home. When weighed, the monster tipped the beam at 636 pounds, the biggest bear* ever killed in Pennsylvania.

*Editor's Note: A bear killed in that same section a few years ago weighed 650 lbs., on approved scales at Stroudsburg according to reports from field officers of the Game Commission.

QUESTIONS AND ANSWERS ON ARCHERY

By CLAYTON B. SHANK

1. Do archers make their own arrows?

A. Many do and the only reason they do so is for the satisfaction that any craftsman feels in producing the things he loves.

2. What kind of wood is used in making arrows?

A. Arrows can be made from many types of wood, but the most satisfactory are: Norway pine, Port Orford cedar, Spruce and Douglass fir. Arrows are sometimes made from birch but they are very unsatisfactory and it is a waste of any craftsman's time to make them.

3. Should the wood be well seasoned?

A. Yes the best arrows are made from air seasoned material. I know men who prefer wood at least 6 or 7 years old.

4. Is it necessary to select a good piece of wood and what are some of the qualities to look for?

A. Yes. Some of the qualities are straightness and closeness of grain as well as air seasoning.

5. If the spine of an arrow is too weak for the bow what happens? If too stiff?

A. Different weight bows, in other words the pull (pounds) necessary to draw the string a given distance from the bow require arrows of different stiffness. In other words an arrow made to shoot straight from a light lady's bow of 25 pounds can not be expected to shoot as well from a bow weighing 40 or 50 pounds. Arrows that are too stiff for the bow fly to the left of the mark, those that are too weak fly to the right.

6. Is spine or stiffness a necessary requisite to be checked in arrow making?

A. Yes, this word spine should be impressed on every archer's mind. It means the ability of the shaft to resist uncommon buckling, or binding, when shot from a heavy bow, coupled with a quick return to straightness. The finest looking arrows in the world are useless without it.

7. Is it necessary to match arrows for weight and spine before shooting them?

A. Yes this is very important and every effort should be made to keep a group within 5 grains in weight and 3% in spine. Commercial tackle makers charge good prices for these kind of arrows but they are worth every dollar you pay.

8. Are arrows all one piece?

A. No, most of the experts use a footed shaft. The footing is made from hard woods such as Snakewood, Bethabara, Beefwood, etc. The footing is much the same as that seen on a billiard que.

9. What is the diameter of an arrow?

A. Arrows are made to various diameters, the sizes ranging from 9/32 of an inch for ladies to 9/16 of an inch or more for men.

10. What is the usual weight of an arrow?

A. Arrows range in weight from 240 grains for a 23-inch arrow to 500 grains for 28-inch arrows. A good tournament arrow of 28 inches weighs from 350 to 420 grains, shorter arrows in proportion to length.

11. What type of feathers are used on arrows?

A. Turkey feathers.

12. Is it important to select these feathers?

A. Yes, the right and left wing bear an opposite relation to each other the same as our hands do. The feathers curve in different ways and it is therefore necessary to select feathers from the same wing. A set of arrows should be fitted with feathers from the same side either all right or all left.

13. To what shape should feathers be trimmed?

A. This is a matter of personal preference. Some archers trim them to a triangular shape while others cut them into a balloon shape or an approximate parabola.

OUR WILD NEIGHBORS—By Earl L. Poole

THE CHIPMUNK

(Tamias striatus)

The Chipmunk is a small relative of the squirrels, which has adopted a life on ground. For five months out of every year, and on nights and cold dark days, it dozes in its dark, damp burrow, but on bright, sunny days it will likely be out in the sunlight, either sun-bathing or scampering about in search of nuts, seeds, buds, fruit or other edibles.

Chipmunks, while largely vegetarian, are also carnivorous on occasion, and will eat insects, reptiles, eggs and other small animals. While most of their activity is confined to the ground, they can, and often do, climb trees.

They are expert burrowers, also, and their dens are often connected with a maze of complicated tunnels and store-chambers that seem to have been made purely for the pleasure of digging. They are also adept at hiding the entrances which are approached from below, often under a rock or log, so that no fresh dirt shows at the door.

In the store-chambers near the den, the Chipmunk hides quantities of seeds, nuts, and other storage food, which it gathers in its cheek-pouches, capable of holding as many as four acorns on each side.

The contents of these storage chambers are very important when the chipmunk awakes from its winter nap, and tide it over the lean season of early spring, when little food is to be found.

The mating season is in early spring, and the young, from four to five in number, are born anywhere from early May until the middle of July. The young remain with their parents during the first winter, the entire family hibernating in the old nest.

The Chipmunk has many enemies, and must be continually on the lookout for hawks, cats, skunks, weasels, foxes and snakes.

In spite of this fact it seems to have a bright disposition, and its song, a series of bird-like chirps, given from some stump or tree, is often heard throughout the summer and fall months, even after the birds have ceased singing.

WILDLIFE IN THE FARM PROGRAM

(Continued from Page 7)

of this kind that possibly could be done with the limited amount which can be budgeted for that purpose. Their efforts of necessity must be confined to their own State Game Lands and Game Refuges. Development of game food and cover and other wildlife activities must be carried on over the other additional millions of acres in the State. If the work is to be carried on over all areas it will, of course, be necessary for those interested in the cause of wildlife conservation to assist. If every interested individual did just a little bit, instead of depending upon a few to carry the load, it would go a long way toward restoring favorable wildlife environment over many areas.

Probably sportsmen have a greater interest than most individuals although wildlife means just as much to many other groups interested in nature. If, however, only the 600,000 licensed hunters devoted just one day each during the year, it would be the same as employing 2,000 men for a whole year—figuring of course that there are 300 working days to the year. Two thousand men working for one year on game restoration could accomplish real results. If, in addition, their work was coordinated with other interested individuals, and groups, and with the landowner on whose property work is conducted, there would be no necessity for concern over the future game supply. To be most effective the work naturally would need to be carried on year after year, but after all, one day a year is not much to constribute to such a worthy cause.

Probably nothing has been more detrimental to wildlife than the so-called clean farming practices. When agriculture becomes too intensive with all brush removed from along fences, streams, gullies, and around quarries, and rough nooks brought under cultivation, conditions favorable to wildlife are considerably lessened. When such intensive cultivation is carried on some modification of the farm practices must be made if wildlife is to be encouraged. There is probably no other group who live in an environment as close to nature as farmers. There is no other group who would be more loath to see the disappearance of valuable wildlife, and speaking from my knowledge, gained over many years of close association with farmers, I believe I can safely state that no other group will be more willing to assist in maintaining good homes for our wild friends.

We cannot devise, or plan, any one set layout for food and cover development that would apply to a number of farms. Each farm has its own individual characteristics that cannot be covered in a general plan.

It is therefore suggested, before starting any actual food and cover work on a farm, that the farmer and any sportsmen who may be interested look over the entire area. They can then pick the various locations of the different tree and shrub plantings which may be needed, lay out a system of travel lanes, plan grain food plot locations, where artificial retreats should be built, spots where fences should be shifted, places where natural growth can be encouraged, etc.

If there are any individual problems upon which farmers or sportsmen wish information they may secure it by writing to the Pennsylvania Game Commission, at Harrisburg, Pa., or by contacting the nearest Game Protectors.

Two women and 50 men, arrested in a three-State area centering around Memphis, have been arraigned for U. S. Commissioners and in State courts in Arkansas, Mississippi, and Tennessee for game law violations involving killing, transporting, and selling waterfowl and other game birds. Minor cases, prosecuted in the State courts against 18 men and the 2 women, resulted in fines and costs totalling $1,065. The courts suspended three 60-day jail sentences and $125 in fines. Three of the offenders are serving time in lieu of payment.

A college professor, on his first big game hunt, fired nervously at a rustle in the brush. He scored a hit and his veteran guide went to investigate."

"Well," the novice nimrod demanded after an interval of waiting. "What species have I shot?"

The guide's worried voice came back from the brush: "Says his name's Smith."

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OUR WILD NEIGHBORS

By EARL L. POOLE



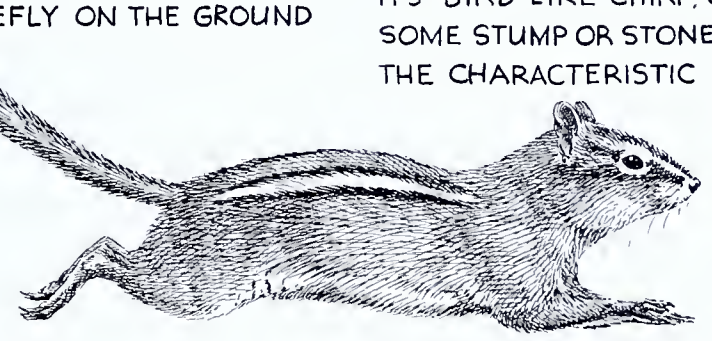
IT IS A RELATIVE OF THE SQUIRREL BUT LIVES CHIEFLY ON THE GROUND



ITS BIRD-LIKE CHIRP, GIVEN FROM SOME STUMP OR STONE IS ONE OF THE CHARACTERISTIC SOUNDS OF THE EARLY FALL WOOD-LAND



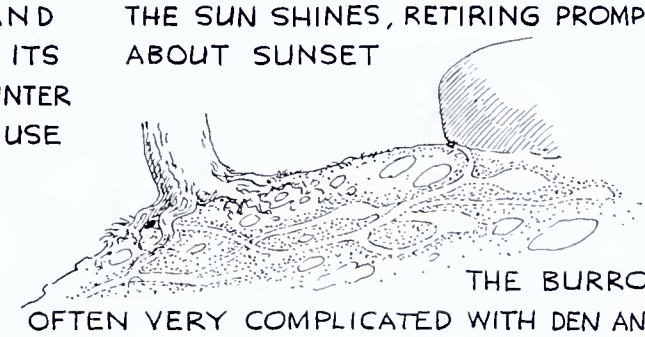
ITS CHEEK POUCHES ARE HANDY RECEPTACLES FOR SEEDS AND NUTS WHICH ARE STORED IN ITS UNDERGROUND BURROW FOR WINTER USE



IT IS BRIGHTEST AND MOST ACTIVE WHEN THE SUN SHINES, RETIRING PROMPTLY AT ABOUT SUNSET



WHILE KNOWN AS A GROUND SQUIRREL, IT OFTEN CLIMBS TREES IN SEARCH OF FOOD



THE BURROW IS OFTEN VERY COMPLICATED WITH DEN AND STORE-CHAMBERS AND A MAZE OF TUNNELS WITH CONCEALED ENTRANCES



THE WINTER MONTHS ARE SPENT BELOW THE GROUND IN A DORMANT CONDITION, WITH BRIEF INTERRUPTIONS TO FEED

E.L. POOLE

Wildlife Syndicate 1938

THE CHIPMUNK (Story on page 32)

Back to Nature

Did you ever watch the camp fire
When the wood has fallen low;
And the ashes start to whiten
Round the embers' crimson glow;

With the night sounds all around you,
Making silence doubly sweet;
And a full moon high above you
That the spell may be complete?

Tell me, were you ever nearer
To the land of heart's desire,
Than when you sat there thinking
With your face toward the fire?

—Anonymous.

PENNSYLVANIA
GAME NEWS

P38.34
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JULY 1938 TEN CENTS

PENNSYLVANIA GAME NEWS

Published monthly at 1117-1131 Wolfendale St., Pittsburgh, Pa., for Pennsylvania Game Commission, Harrisburg, Pa.
Executive and Editorial Offices. Commonwealth of Pennsylvania, Pennsylvania Game Commission, Harrisburg, Pa.

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The PENNSYLVANIA GAME NEWS is published each month at a yearly subscription rate of 50c or 10c a single copy. Club rates at 40c per year are available to organizations and business concerns presenting 25 or more subscriptions in a single order.

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Material for each issue should be submitted not later than the FIRST OF EACH PRECEDING MONTH.

Permission to reprint will be granted provided proper credit is given.

Entered as second class matter at the Post Office of Pittsburgh, Pa., under Act of March 3, 1879.

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Vol. IX, No. 4

EDITORIAL

July, 1938

YOUTH IN CONSERVATION

THAT youth is beginning to play a very important part in the wildlife program today is apparent everywhere. Through the guiding influence of Sportsmen's Associations, the Boy Scouts, 4-H Clubs, Service Clubs, and other organizations, boys and in many cases girls are being taught how to protect and increase wildlife, how to hunt and fish properly **and safely,** how to study wild creatures and their habits, how to preserve valuable wildlife, our waters, and the forests, how to combat soil erosion—in fact, they are taught how to conserve and restore all our renewable natural resources.

The only retarding factor in the youth program today is the lack of some central or governing council through which a well-rounded, unified program can be developed and promoted from year to year. Such a council, which would act more in an advisory than an administrative capacity, was suggested recently at a meeting of prominent sportsmen, representatives from the Fish and Game Commissions, and the Kiwanis, Rotary, and Lions Clubs, held in Harrisburg. Whether it will become a reality or not depends upon the degree of enthusiasm with which those interested are willing to promote it. Already it has the support of most of the Service Clubs, Boy Scouts, etc., and efforts are being made, with every indication of success, to get the American Legion, Women's Clubs and other progressive organizations behind it. The suggestion was made that a Conservation Council should be composed of one or two representatives from each group.

The keynote of such a project would no doubt be the Conservation of Youth, but the functions of the council would involve the practical application of youth to the more wholesome recreational facilities which the great outdoors provide. The program would not stop merely in teaching youth how to conserve the natural resources of the Commonwealth, but would aim toward the betterment, and, in cases where they do not exist, the creation of other recreational facilities, such as playgrounds, etc.

Some of the proposals outlined at the gathering included a textbook on conservation for the public schools, material to be furnished by all of the State Departments which administer the natural resources of the State; a continued flow of motion pictures portraying object lessons about conservation into the public schools; and the establishment of playgrounds in those communities lacking these much needed recreational centers.

Perhaps the true picture back of the contemplated movement could well be considered an attempt to provide better environment for our youth. A glance at the list of inmates in our reformatories and penitentiaries shows an amazingly large number of young boys, and further perusal of their records in many cases show that they were never given an opportunity to enjoy the outdoors—to hunt, to fish, to camp, or to indulge in other wholesome outdoor sports. On the other hand many cases showed that their early lives included one violation of the conservation laws after the other—a disregard of law which paved the way for future criminal careers.

If the youth of the Commonwealth and of the Nation can be taught the right things from early childhood there is very little danger of our young people going astray. Where this psychology so often fails, however, is that youngsters are not kept busy doing constructive things. If we want to divert the youth of today from criminal tendencies we must provide a recreational program that is so practical in its application, and so interesting in its execution that it will prevent the intrusion of any discordant note.

While only in the formative stage, the program herein outlined offers much food for serious thought. We cannot afford to allow our youth to be neglected or misled. A childless parent should be just as much concerned about the mischievous youngster next door whose youthful energies are misdirected as he would be if he had a boy of his own. If he took no interest whatever, or if the public in general took no interest in the "naughty boys," of the neighborhood, they may sometime find themselves the victims of their own short-sightedness.

So it is with conservation! Man cannot afford to hang up his gun or his fishing rod when he becomes too old to go afield, and take no further interest in promoting the sport he enjoyed, or preserve the wild creatures he pursued. He should have enough foresight to train his boy or other boys so that they can begin where he leaves off. Some parents are doing this today—many others are not. Some Sportsmen's Associations have organized junior clubs within their groups—many more have not. If the youth of the State and Nation is to be conserved as well as the natural resources, and equally important a law abiding civilization developed, then a program such as outlined certainly has its place in the educational program of today.

Here's to the Sportsmen

By ALLEN CARTWRIGHT

Here's to the sportsmen of this, our town,
Our state, and our National clan;
Those fellows who help Mother Nature
Bring forth all the game that she can.

The woodland, the stream in the valley,
Their cause is a thing they advance.
For it gives to the fowl and the fishes
A decent like sort of a chance.

I am proud to be known as a sportsman,
Whose heart ever gladly appeals
To all that is wholesome and noble,
And founded on lofty ideals.

I am proud to be known as a sportsman,
Because he's a fellow who knows
The old Golden Rule is the fashion
If it rains, if it shines, or it snows.

• THE KALBFUS MEMORIAL FUND •

P. O. Box 368,
Harrisburg, Pa.
June 3, 1938.

Dear Fellow Sportsmen:

Almost fifty years ago Dr. Joseph Kalbfus became a leading exponent of the need for a State Game Commission and strict laws and regulations to conserve the wildlife of this Commonwealth. With this thought in mind, he gave unstintingly of his time and money in helping to formulate plans for the organization of the Pennsylvania Game Commission and the enactment of the first real Game Laws in this State.

He served as Chief Game Protector and Secretary of the Commission from 1898 to 1919, when he and Woody Kelly lost their lives in a railroad accident when on an official trip in Warren County. The first six years of this period he served without pay.

No doubt you are aware that an Act was passed by the last session of the Legislature giving the sportsmen of Pennsylvania the right and privilege to erect, in the corridor of the Capitol, a plaque commemorating the services of Dr. Joseph Kalbfus, familiarly known as "the Father of the Game Program of this Commonwealth." The above bill was sponsored jointly by Dr. Wilbert D. Imbrie of Butler County and Harry L. Schumacher of Erie County.

Hon. John M. Phillips, that grand old man of conservation, a lifelong co-worker of Doctor Kalbfus whom all sportsmen know, has kindly consented to act as Chairman of a Committee sponsored by the Pennsylvania Federation of Sportsmen's Clubs to raise necessary funds to carry out the intent of the above Act.

This Committee includes the Chairman and Vice-Chairman of each Division of the Federation, and the President and Vice-President of the State Division of the Izaak Walton League have consented to serve with the Committee in this worthy undertaking. At a recent meeting of the Directors of the Federation and the League the undersigned was selected to act as Secretary-Treasurer of the Committee.

The Committee is hopeful that each sportsmen's organization in the State will contribute $2.00 or more toward the expense of the memorial. It will cost somewhere between $800.00 and $1200.00. If more money is raised than needed, a suitable memorial also will be erected at the entrance of the Kalbfus Refuge in Warren County, commemorating the services of both Woody Kelly and Doctor Kalbfus.

When the necessary funds have been collected arrangements for the plaque and its public unveiling will be completed. Kindly make all checks payable to the KALBFUS MEMORIAL FUND.

Cordially yours,

Judd C Turner,

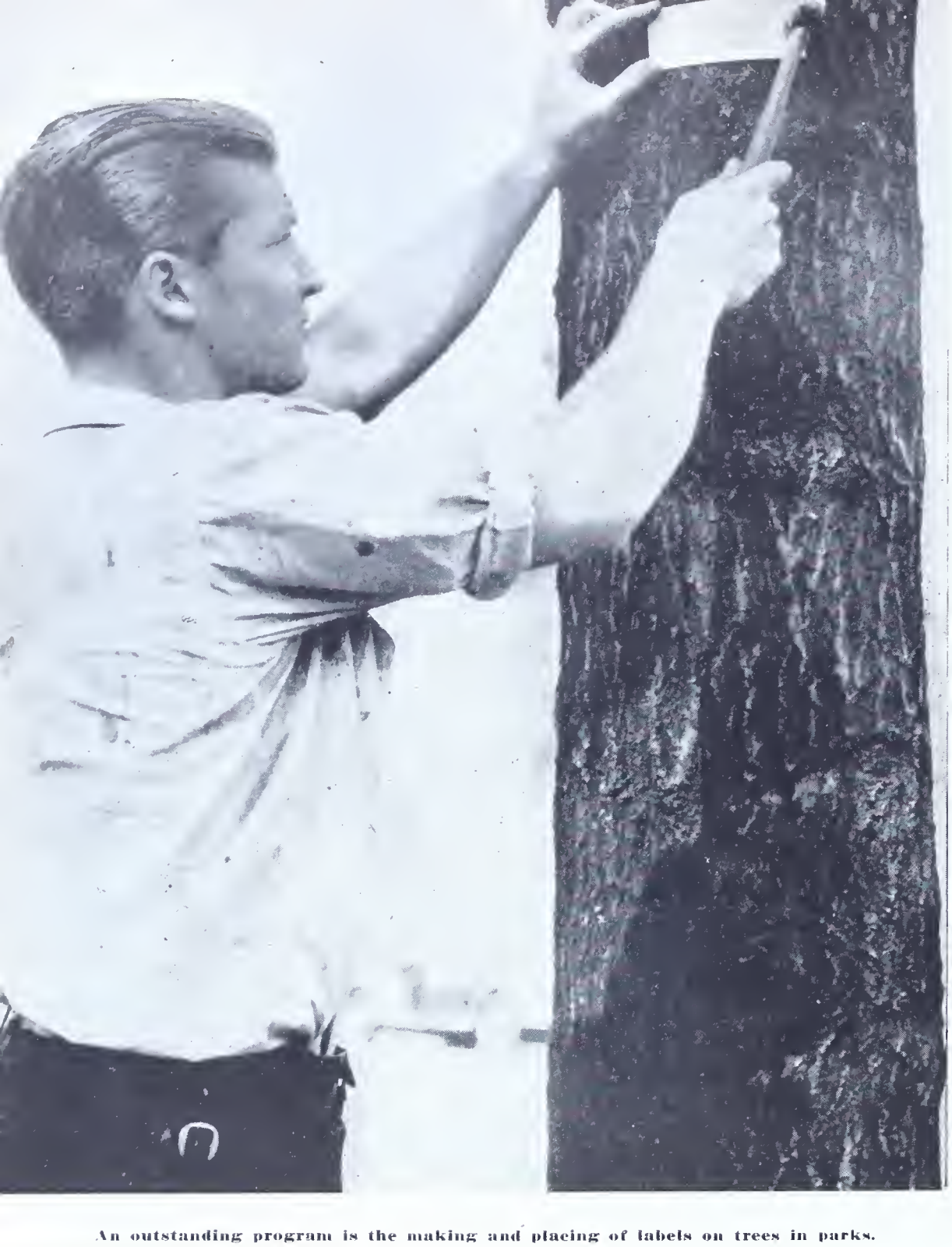
Secretary-Treasurer.

EDITOR'S NOTE:

Although 19 long years have elapsed since Doctor Kalbfus passed on to the Happy Hunting Grounds, the doctrines he taught and the principles for which he stood have endured unchanged throughout the years. His great courage in the face of apparently insurmountable obstacles, his untiring efforts and his unbounded enthusiasm, were a source of wonder and inspiration to all those who knew and worked with him in the early days of the Commonwealth's wildlife program.

Doctor Kalbfus' untimely death occurred on August 10, 1919, at the age of 67, in a railroad crossing accident in Warren County near Clarendon while he, Dr. Charles Penrose, Mr. John M. Phillips, and "Woody" Kelly were inspecting lands to purchase for refuges and public hunting grounds.

While it is a coincidence that this solicitation of funds for his memorial comes right on the heels of the anniversary of his death, it is none the less a fitting time for all those who admired that Great Wildlife Pioneer to show their appreciation by helping to honor him and perpetuate his memory in the corridor of the State Capitol, probably near the memorial plaque of Dr. Joseph Rothrock, the Father of Forestry in Pennsylvania.



The NYA in CONSERVATION

By J. W. McGOWAN

An outstanding program is the making and placing of labels on trees in parks.

IN field, forest and stream, National Youth Administration enrollees have been carrying on a broad program of wildlife restoration, reforestation, and reclamation. Cooperating with various state departments, hundreds of young men are engaged in insect control work, improving and restocking streams, making and placing bird and game shelters, reclaiming and preparing game lands, and in a hundred and one other projects aimed at conservation and restoration of the Keystone State's incomparable outdoor attractions.

In planning the N.Y.A. program and the most efficient and useful purpose to which it could be put in training and developing young men, special emphasis was placed upon conservation. Young men all over the state are trained in this vitally important field of endeavor. The widespread success of the conservation and restoration work of N.Y.A. youths is attributable largely to the close and whole-hearted cooperation of the various state departments.

A large portion of N.Y.A. activity has been in cooperation with the State Game Commission. Several hundred youths have been employed in work for this department alone. An interesting Game Commission project now being completed is located on Game Lands No. 108, near Patton, Cambria County. Here the youths are building a dam across one of the small streams running through the tract. The water thus impeded will cover an area of approximately three acres, which will then be stocked with mountain trout. N.Y.A. youths will cooperate with the Fish Commission in this work.

In the same county, near Portage, on Game Lands No. 26, a broad reforestation program is being carried on by N.Y.A. boys. These workers have released, cut, pruned, and planted thousands of trees. Included in this work is also cutting and logging of trees. During March, these youths cut approximately one hundred trees, logged, and prepared them for transportation to a small sawmill where they were converted into more than three thousand feet of lumber to be used in construction work by the Commission. On the same Game Lands they cleaned several hundred feet of drainage lines and erected an entrance gate.

On the two Game Lands mentioned before, youths have also been active in preparing and fencing propagation areas. Two such tracts for rabbits, with a total of 250 acres, have been completely fenced. This summer, the Game Commission is planning to use N.Y.A. help in this county (Cambria) in planting 50,000 cuttings for game food purposes. The Commission has also proposed that several small fishing dams be constructed on these areas. Youths in this section are working under direct supervision of County Game Protector Elmer B. Thompson and Bruce W. Catherman, Land Manager of State Reserve Group No. 41.

Extensive work has been completed, many projects underway, and others being planned in Brady's Bend Township (Armstrong County) for the Commission. Some months ago, youths began planting 10,000 trees on various plots of state-owned land in this township. Several miles of fire lines were cut, boundary fences constructed and repaired, and boundary markers made and placed. At



Making game land marker signs is but one phase of N.Y.A. activity in the field of conservation.

the present time, youths are constructing a roadway and fire line in one of the largest state-owned areas in the township. These are being made so that trucks with men and fire-fighting equipment might have ready access to densely wooded sections in battling forest fires. An outstanding activity in Armstrong County has been the building of pole bridges across streams and ravines. These bridges are erected with rough hewn timber.

Plans are now being made by the County N.Y.A. Supervisor and the District Game Protector for reclamation and rehabilitation of 1400 acres of timber and farm land in Mahoning Township, Armstrong County, recently purchased by the Game Commission. These would include utilization of N.Y.A. facilities in every phase of activity necessary for transforming this acreage into a well equipped and adequately stocked game land. Initial preparations call for the cutting of several miles of boundary lines which means felling many trees, clearing brush, and mowing open fields. White boundary markers would then be made and placed along these paths. Youths would also be used in preparation and construction of three game refuges planned for this newly acquired land. Several streams would be cleared and stocked, as well as thousands of trees planted.

Bird and game shelters and feeders have been placed throughout Armstrong County and kept stocked with grain during the past winter by N.Y.A. youths. Similar work was also carried out in Mercer County, where workers made and erected three hundred shelters and distributed eighteen hundred pounds of grain. More than 100 feeder boxes were erected in Cambria County.

The Game Commission has availed itself of the services offered by many N.Y.A. workshops throughout the state. More than 5000 rabbit traps were made in one of the largest state-wide projects sponsored by this department. These traps are being used in the work of redistributing the state's rabbit population by catching them where they are plentiful and releasing them in areas where there is a scarcity. N.Y.A. youths will aid Commission workers in placing these traps. Facilities of workshops in six urban centers were used in completing this project. More than 500 were made in the Harrisburg shop, 500 in Huntingdon, 500 in Johnstown, 1000 in Nanticoke, 150 in Lansford, and 100 in Philadelphia.

In the Bedford County workshop, young men have been employed in constructing twenty-five quail rearing pens. These are of the large type, being 12 feet long, 5 feet wide and 2 feet high. Constructed according to Game Commission specifications, more than 21,000 board feet of lumber, 1000 feet of poultry wire, and 624 square feet of roofing were used to complete the work. This is only one of the many types of shelters being made by N.Y.A. enrollees throughout the state.

Other work at the Bedford shop includes the making of 1000, 12" x 15" bulletin boards. A total of 1600 board feet of lumber and 40 gallon of creosote were used by the youths on this project. They are now completing an order for five thousand additional boards. The same boys have also made 590 Game Refuge markers for sixty game lands.

With the State Department of Forest and Waters as sponsor, 36 N.Y.A. boys have been employed in the Altoona workshop, making various articles of furniture to be placed in state park cabins. One of the largest projects of this nature included the construction of 100 tables and 400 chairs. Approximately 8000 feet of oak was used to complete this work.

Working under the same sponsor, ten youths in the Ligonier, Westmoreland County, workshop started production of forty double deck beds, also to be placed in state park cabins. In order to accelerate completion of this project before the 1938 summer tourist season opens, this work has been redistributed among several other N.Y.A. workshops.

N.Y.A. shops have also cooperated with the Department of Forest and Waters, the State Park Bureau, and others in making rustic signs and trail markers. Many of these signs have already been placed, such as those in Bushy Run Battlefield and Kooser State Parks.

Another phase of N.Y.A. aid in this particular department is the repair and construction work in state parks themselves. A major project of this nature was started last year in Bushy Run State Park, Westmoreland County. Although created a state park less than ten years ago, little improvement has been made in the way of tourist or sightseeing facilities. Through N.Y.A. help, numerous roads were cut through the area and spread with cinders and stone: parking places were provided; large areas landscaped and reclaimed. a museum started; and fences, guard rails and boundary lines erected. For the past few months, a crew of workers, under direction of Ranger William Moog, has been engaged in repair work throughout the park in enlarging parking space, making and placing benches, and installing picnic facilities.

Perhaps the most outstanding project being completed for the Department of Forest and Waters is the construction of a Conservation Museum in Caledonia State Park. Work on this was started in September 1937 with an impressive cornerstone laying ceremony. Various other state departments are also cooperating in



Right — The improving of scenic trails forms a major part of the outdoor work of the N.Y.A.

THE NYA IN CONSERVATION

this venture—perhaps the only one of its type undertaken by the N.Y.A. or any other youth organization in the Nation. When completed it will be a striking monument to the unquenchable ambition, skill, and accomplishment of our modern young men, in the face of economic and social conditions which have never been faced by any previous generation of American youths.

This museum is to be situated in the heart of the beautiful and heavily forested Caledonia Park area, readily accessible by automobile. The land has been contributed by the Forests and Waters Department. Within this structure, being made of native stone and timber, will be housed in model form, practically all of the Keystone State's conservation programs. Visitors will be able to understand at once just what the state is attempting to do in stream improvement, soil erosion, game refuges, reforestation, and a host of other projects all designed to conserve and restore Pennsylvania's natural wonderland.

Spreading fanwise from this central museum will be nature trails lined at various intervals with living exhibits of the state's game and bird life. Taking a cue from the tree-labeling project recently completed by N.Y.A. in Pittsburgh's municipal parks, through which thousands of aluminum labels bearing the common and botannical names of each tree were made and placed by workers for the benefit of hundreds of nature study groups, the trees in the area surrounding the museum will be similarly marked.

Numerous other displays to be included in the conservation center will concern plants; shrubs and trees; birds and mammals; insects; in fact everything being undertaken by the state in the way of keeping or restoring natural life to our Commonwealth will be found in or about this museum.

In several of the western Pennsylvania counties, hundreds of N.Y.A. youths are employed on forestry projects. For example, in Somerset County they are working on this type of project in five different townships.

With the Fish Commission as sponsor, other youths have been working in fish hatcheries throughout the state, under direct supervision of Commission officials. At Reynoldsville, Bedford County, a crew of youths aided in keeping hatcheries clean, clearing dead fish from propagation ponds, and in other service work. Youths aided in construction of propagation ponds at Williamsport, Lycoming County.

Other special projects in the field of conservation and restoration activity include active participation in National Wildlife Restoration Week. In Pittsburgh, N.Y.A. youths assisted the Bureau of Parks in preparing an extensive exhibition during the week of March 20. The exhibits were housed in Phipps Conservatory, Schenley Park. Working under direction of the park naturalist, the boys constructed many of the displays and pens for wildlife exhibits. Examples of N.Y.A. work in city parks throughout the year were also included in the exhibit. During the week the young men served as guides for visitors.

N.Y.A. enrollees were particularly helpful during 1937 in aiding pest eradication campaigns sponsored by the State Department of Agriculture. Especially were youths active in this work in western Pennsylvania. In many cases, crews of fifteen and twenty young men armed with long poles and large cans, would tramp for days along the highways and byways plucking nests of tent caterpillars from the trees and burning them in the tin containers. Japanese beetle eradication projects were also carried on with help extended by N.Y.A.

The material accomplishments of N.Y.A. youths in this type of work, meaning conservation and restoration generally, are readily apparent. Through their efforts, they are carrying out and enlarging programs of various departments and are providing the Keystone State with many additional attractions in game lands, game refuges, parks, forests and other areas. While these material accomplishments loom large in the minds of most people, there is a still greater and well nigh inestimable value in this work. Labor in field, forest and stream is inculcating in these youths a lesson of appreciation of our natural phenomenon a solid, realistic appreciation which could never be gleaned from textbooks or lectures. The ideal spirit of conservation and restoration as exemplified in the work of the various state departments, is being instilled in the minds and hearts of these youths. It is imbuing them with an earnest desire to see that this feeling is not only individualized but that it is widely disseminated. They are becoming the apostles of the spirit of the true sportsman and naturalist.

In training youths in this work, N.Y.A. is offering what is, perhaps, its greatest contribution to the young men and women as well as to the state. These youths now realize the tremendous task conservationists face today. They have joined in the campaign to reduce the number of those unthinking people whose onslaughts and forays into the world of nature are accompanied by destruction instead of appreciation. There is very little doubt that, in the final analysis, work of this type will prove to be of greatest benefit from three basic angles—it materially and spiritually aids youth; it has added many facilities to our state, increasing the Commonwealth; and, in a highly correlated manner, is "conserving our natural resources through conservation of our human resources."

This museum, which was sponsored by the Department of Forests and Waters, is being constructed at Caledonia State Park by the N.Y.A.



THE STORY BEHIND THE NEWS

By MARY A. SWOOPE

Police spent almost an hour early today chasing two young deer in Downtown Harrisburg, giving up the chase after it was believed the animals fled from the city.—*Harrisburg Evening News.*

MR. DEER was reading the paper. He had just finished a bunch of especially succulent young birch shoots and was feeling at peace with the world. Mrs. Deer was sewing on some little garments, for a Blessed Event had recently occurred. Mr. Deer looked up suddenly.

"There is to be a meeting at the Capitol tomorrow," said he, "to discuss the deer season for 1938. It does seem to me that since deer are the ones most concerned, we should be represented."

"I never did see why a lot of sportsmen should decide when and how we are to be hunted," said Mrs. Deer, with a sniff and a toss of her head. "We certainly should have some say in the matter."

"You are quite right, my dear, and I think it is high time we took some action."

"Well, why don't you go? I'll go with you if you like. I feel that does should take an interest in these matters, and perhaps the sportsmen would be moved by an appeal from one of our sex."

"I'm sure you are right, and I think we should start at once. It is a long way to Harrisburg, even if we cut through the park and it is afternoon now." Here he glanced at the sun which was just visible through the fresh green foliage of their forest home.

"Yes, as soon as I finish this seam we'll start. Oh, and I must put some fresh leaves on little Johnny Fleetfoot's bed and put him down for his nap. And I should polish my hooves just a little, and your antlers need a good scrubbing—"

"Dear me, we'll never get started," sighed Mr. Deer an hour later. "Why are does never on time?"

"I'm ready now, and if we lope a little, we can easily get to the Capitol in time for the meeting—men always do so much talking that they won't get around to business right away."

So at last, the self-appointed delegates were on their way and at first all went well, but soon Mrs. Deer began to be a little short of breath.

"I'm sorry, John, I can't go quite so fast," she panted, "I'm not so strong since little Johnny came."

"Of course, we'll walk a bit—the sun is still high."

At length they reached the hard city streets not made for tender hooves, and the going became slower. Soon they began to meet many cars, all going away from the city, and they had to watch carefully to avoid them.

"Why anyone wants to live in the city with these dreadful cars and all the noise, I can't see!", said Mr. Deer. "I'll be glad when the meeting is over and we can get back to our peaceful forest."



He had just finished a bunch of succulent young shoots.

"Well, it won't be long, now—we can just go through Reservoir Park, and across the State Street Bridge."

As they approached the Capitol, they saw a great many people coming out of the various buildings, and the cars became more numerous so that the poor Deer became confused and nervous, and lost their way in Capitol Park. Finally, they asked an important-looking man who was hurrying by, just where they would find the offices of the Game Commission.

"Well, they are in that building", said the man, staring at them in astonishment, "but of course, everything is closed now. It is five o'clock."

"Oh No! It can't be—the sun is still high", said Mrs. Deer.

The man laughed in a superior fashion. "You must be from the country", he said. "Here we are on Daylight Saving Time."

"What is that?" asked Mrs. Deer who was feeling too tired to care very much.

"Oh, it is fast time and everyone goes to work an hour earlier and stops an hour sooner—or is it the other way? I never can remember!" said the superior young man.

Mr. Deer looked at his wife despairingly. "What shall we do?", he asked. "We are too late, and we can't start home 'til we've rested a little."

"Let's just browse around the grounds here. I see some nice, green shrubbery, and then we can lie on the grass and rest until morning—But what will little Johnny Fleetfoot do without me? I wish we'd never come —I'll never dabble in men's affairs again!", and Mrs. Deer began to weep softly.

"There, there, we'll get home tonight. You'll feel much better when you've eaten. Try a few of these juicy leaves."

Soon Mrs. Deer had forgotten her troubles and began to take an interest in her surroundings.

"Well, since we're here", she said, "We might as well see something. I'd like to walk down Third Street and see some of those shops I've heard about, before we start home."

Mr. Deer sighed resignedly. "All right, but we should start soon. I wish we hadn't missed that meeting, but I don't suppose they'd have listened to us anyway."

When they reached Third Street, a dog happened to be trotting toward them, and at once he started to bark. The deer hurried on in an attempt to lose him—and the chase was on.

Telephone calls began to pour into Police Headquarters — "Get a Game Warden!" — "Call the Game Commission!"—"Get an officer!"

Police cars dashed out, sirens blew, crowds collected. Two panic-stricken deer made a dash for liberty.

Crash! went a window—Bang! went the brakes of cars—and the deer raced blindly on. Through yards, down alleys, over banks they fled, never pausing to look behind until the welcome shelter of the trees of Reservoir Park came into view.

"If we can just hold out a little longer, we'll be safe!" Mr. Deer panted encouragingly. "There are fields ahead, and cars can't follow us there."

And so at last they came to a halt on the outskirts of the city in a little patch of woodland on a farm. There they threw themselves on the ground, panting and exhausted, but safe.

"Look!" gasped Mr. Deer, and nodded toward a tree on which was posted a large sign, SHOOTING ALLOWED.

"Oh! Life is so hard for deer. I wish some times we were people and had no troubles!" wailed Mrs. Deer. "I don't suppose they ever have to worry about keeping alive."

"Well, I've read in the papers that humans have troubles, too," said Mr. Deer. "There is an open season on men all the year around, especially in China and Spain. We are protected all the year, except in Deer Season—and even then we have a sporting chance. No! I'll take the life of deer."





THE BRONZE LEGIONS

By R. M. BAKER and A. B. CHAMPLAIN

THE Bronze Legions! What are they? From whence do they come? Where do they go? What do they do?

I'd be willing to bet my bottom dollar that the readers who are attracted by the title I have given this little story will vision a tale filled with adventure, shrouded in mystery, baffling in solution.

They will subconsciously visualize the characters in this drama as ogres of a mythical world, as warriors of a century old civilization, or as a modern organization banded together for good or evil . . . . And they will not be far wrong.

But my characters are not men—they are insects. Moreover they are very evil characters. They are to be feared more than all the other enemies of man put together, because man has to exercise every power at his command to control them.

Modern civilization has ways and means of combating and controlling, to a reasonably safe degree, most of the enemies which menace it—whether they are criminal mankind, predacious bird or beast, fire or flood, sickness or disease.

However it has not yet succeeded in subduing the little bronze legions which threaten its very existence—legions which are constantly waging a relentless warfare against its crops, its vegetables, its fruits, its trees, its flowers.

Allow me to introduce you to a new public enemy No. 1—the Japanese Beetle and his millions of destructive followers.

This little devil incarnate was nothing but a curiosity back in 1916 when the first specimens were passed around for inspection among entomologists and insect collectors —now he and his followers are so numerous for a month or two during summer that people don't know what to do about them.

The latest effort to control the little bronze devils was undertaken by the Fire Department of the city of Harrisburg, last summer.

The department agreed to pay ten cents a pint to school children for collecting Japanese Beetles, and I'm telling you those kids responded in such a noble way that it wasn't long until they had the situation in that city pretty well under control.

Twice a week the fire department's trucks would pick up the kids at the various playgrounds and haul them to a central headquarters where their collections were checked, and where they later received payment for them.

Thus came the end for millions of bronze destroyers. It is a good thing their life span on this earth had not much longer to go, however, for the fire company just about exhausted its supply of dimes, which amounted to several hundred dollars, mostly made up by the individual members. Real community spirit, eh what!—Something we need some more of.

As the name implies these strikingly brilliant green beetles with their red-brown wings come from Japan. They first appeared in this country in a nursery where plants imported from Japan had been set out for propagation or sale.

A seemingly innocent business transaction thus became the means of forming the nucleus of this scourge that is worrying folks in the Eastern United States.

THE BRONZE LEGIONS

Now the area comprising Southern and Central New Jersey, most of Pennsylvania and Northern Delaware is reported generally infested. In addition, local colonies have been found by authorities in New England and in other Eastern States as far South as South Carolina and as far West as Missouri.

The sad fact remains that the beetles are steadily spreading over new territory. It is believed that the entire state of Pennsylvania may soon be a part of the regulated area. Beetles have been found in a number of cities and towns in the five northwestern counties that have been thus far considered free from the pests. This was determined by the trapping method, which is an indication of the beetle population and serves more or less as a controlling factor. It is of interest to report that 4,500 traps were operated during the past two months in the non-regulated area of the Keystone state.

This brings up the question as to how people are going to cope with this menace to their gardens and crops. To understand this procedure they must know the characteristics and life history of the Japanese beetle. The beetles feed on early-ripening fruits, the blossoms and foliage of practically all fruit trees, shade trees and ornamental shrubs, as well as some vegetables and many common weeds of the fields and roadside. No wonder this plant-eating horde discourages the persons whose homes and lands lie in their path. Then adding insult to injury, the females of the species proceed to go down into their lawns and golf courses. Here they deposit their batches of eggs in the soil about the grass roots. From these little spheres of incipient mischief the grubs hatch and proceed to feed upon the tender grass roots.

The winter is passed by the grubs below the frost line and in the spring they again eat and grow. In an area of heavy infestation they may cause severe damage and at times completely kill the grass in golf courses and lawns.

During June the plump and full-grown youngsters are ready to transform. They make cells in the soil among the grass roots in which the paupae or inactive stage is passed. About the middle of June they have become matured adults or beetles. Out they come on warm, bright days, flying through the air in countless thousands, ready to attack helpless garden plants and trees.

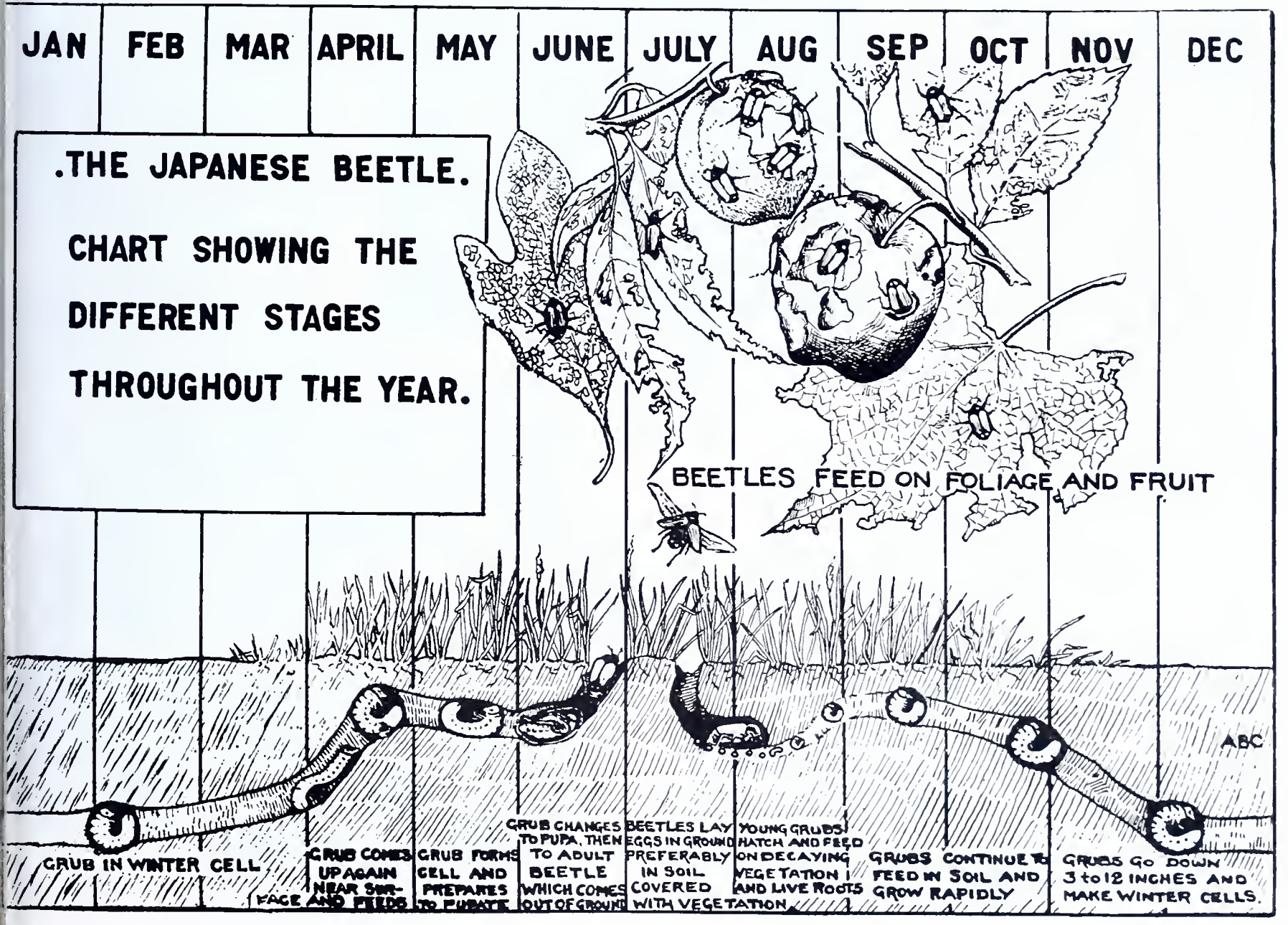
Federal and State Departments of Agriculture have been cooperating to prevent further spread of this pest, to devise methods of controlling it and to introduce natural enemies to fight it. This latter phase of the matter is the most important and hopeful. However, there must be taken into consideration the time necessary to bring this project to a noticeable climax and to allow the disseminated parasites and predators to multiply in numbers sufficient to overbalance those of their hosts. In time we may expect to see this overwhelming infestation of Japanese beetles reduced to the Status Quo of our ordinary native pests, where parasitic and predaceous enemies, disease and other conditions preserve and maintain a natural balance.

In the meantime, we must protect our fruit and shade trees, our home gardens and our lawns. Various methods have been devised by experts of the various State and Government agencies to this end.

First we will go into the matter of beetle-proofing our lawns and golf courses. Here we strike at the newly hatched grubs or the larvae feeding stages. If we can poison our grass roots we thus reduce our infestation right in the first stages. This treatment can be applied at any season when the ground is not frozen but the best results are obtained by applying it when the grubs are very young. This would indicate an application before or during July. Lead arsenate, applied at the rate of 5 pounds to 1,000 square feet of turf before the beetles have laid their eggs has been found to reduce lawn damage to a minimum.

When the infestation is well under way it is advisable to use the material at the rate of 15 pounds or even 20 pounds to 1,000 square feet of turf. There are various ways of applying this material and bulletins and circulars describing it can be obtained at State or Federal offices. With this in mind we mention the fact that infested

(Continued on page 32)





Close-up of an immature goshawk—a potential destroyer of small game

OUTLAWS of the AIR —Or Are They?

The Answer to those who say that the only good hawk is a dead one

By LEO A. LUTTRINGER, JR.

Reprinted from National Sportsman

DESPITE the fact that most hawks are beneficial to mankind, it is still necessary to furnish proof of their economic value to a large number of skeptics who insist that the only good hawk is a dead one.

You would think, in view of all the stomach examinations that have been made, that even the most prejudiced individuals would reverse their opinions when confronted with the overwhelming evidence that has been gathered in favor of hawks during the past half century—evidence to prove that we can't condemn all hawks simply because there is a killer or two among them. There are plenty of outlaws in the human race, but that is no reason for branding them all as killers.

In the next few paragraphs I am going to offer what I believe to be conclusive proof of the economic value of most of our so-called birds of prey. The figures are authentic and can be supported by records if necessary. These records begin November 1, 1924, and end May 1, 1937. During that period a total of 2817 hawks were received, of which 1544 held food, 1079 were empty, and 194 were unfit for examination because of decomposition.



A few of the 2817 hawks examined by the Pennsylvania Game Commission in its studies of predation which are reported in this article

I could go into a lot of detail and include many charts and diagrams to supplement these findings, but they would only bore you and would not offer any more conclusive proof of the good or bad habits of hawks than the simple statements which follow:

The red-tailed, red-shouldered and broad-winged hawks contained almost altogether mice, shrews, caterpillars, grasshoppers, beetles, snakes, etc. In several instances red-tailed hawks had eaten rabbits which subsequent examination showed had previously been crippled by gunshot, and admittedly, some few held remains of domestic poultry—but very few.

The marsh hawk proved to be decidedly more beneficial than harmful, although we found in the stomach of one a young ringneck that may or may not have been crippled or wounded when captured.

True to form, the goshawk, Cooper's, and sharp-shinned hawk headed the list of game, poultry, and songbird destroyers. Here is an example: 70 goshawk stomachs contained ruffed grouse (we found parts of two and even three grouse in some of them); 58 held cottontail rabbits, 19 held ringneck pheasants, and 15 held gray squirrels.

Very few goshawk stomachs contained mice or shrews, but a large number held small passerine birds, and 50 stomachs contained domestic fowl of one kind or another.

While most hawks were killed during the hunting season, a fairly representative number were taken during other months, thus permitting a study of their food habits generally throughout the year. Also, enough hawks of the most frequently discussed species were examined to permit a very fair

Remains of grouse and rabbits found in the nest of a goshawk



Photos from Pennsylvania Game Commission

summation of their normal diet: 488 red-tailed, 231 red-shouldered, 23 broad-winged, 103 marsh, 1269 goshawks, 453 Cooper's, and 203 sharp-shinned hawks were examined.

Other hawks received included 10 rough-legged hawks, 14 duck hawks, 3 ospreys, 11 sparrow hawks and 1 pigeon hawk, the number in each case being obviously too small to present any fair argument either pro or con. Nevertheless, it is interesting to note that 3 rough-legs held only mice, one held parts of a Plymouth Rock chicken, while the remaining 6 were empty.

Three duck hawks held the feathers of some small unidentified birds, one held remains of a pigeon, and the remainder were empty. One osprey held the backbone of a small fish. Two sparrow hawks held songbirds, one held a caterpillar, and the remainder were empty; the pigeon hawk also was empty.

There should be no question of the economic value of the latter two species even if they do occasionally take a songbird. Their beneficial food habits have been proved beyond any doubt by previous examinations of hundreds of stomachs; likewise the rough-leg is far more beneficial than destructive.

The duck hawk, if present in great numbers, would no doubt be a serious menace locally, but its alarming rarity won for this splendid falcon the protection it so richly deserves in one State at least —Pennsylvania.

In fact, the 1937 legislature of Pennsylvania gave protection to all hawks except the goshawk, Cooper's and sharp-shinned hawk, and all owls except the great horned owl and snowy owl. And when the sportsmen of Pennsylvania, who have always been prejudiced against all hawks and owls, condone action of this sort, you can bet your bottom dollar that they have learned to recognize the true value of most birds of prey.

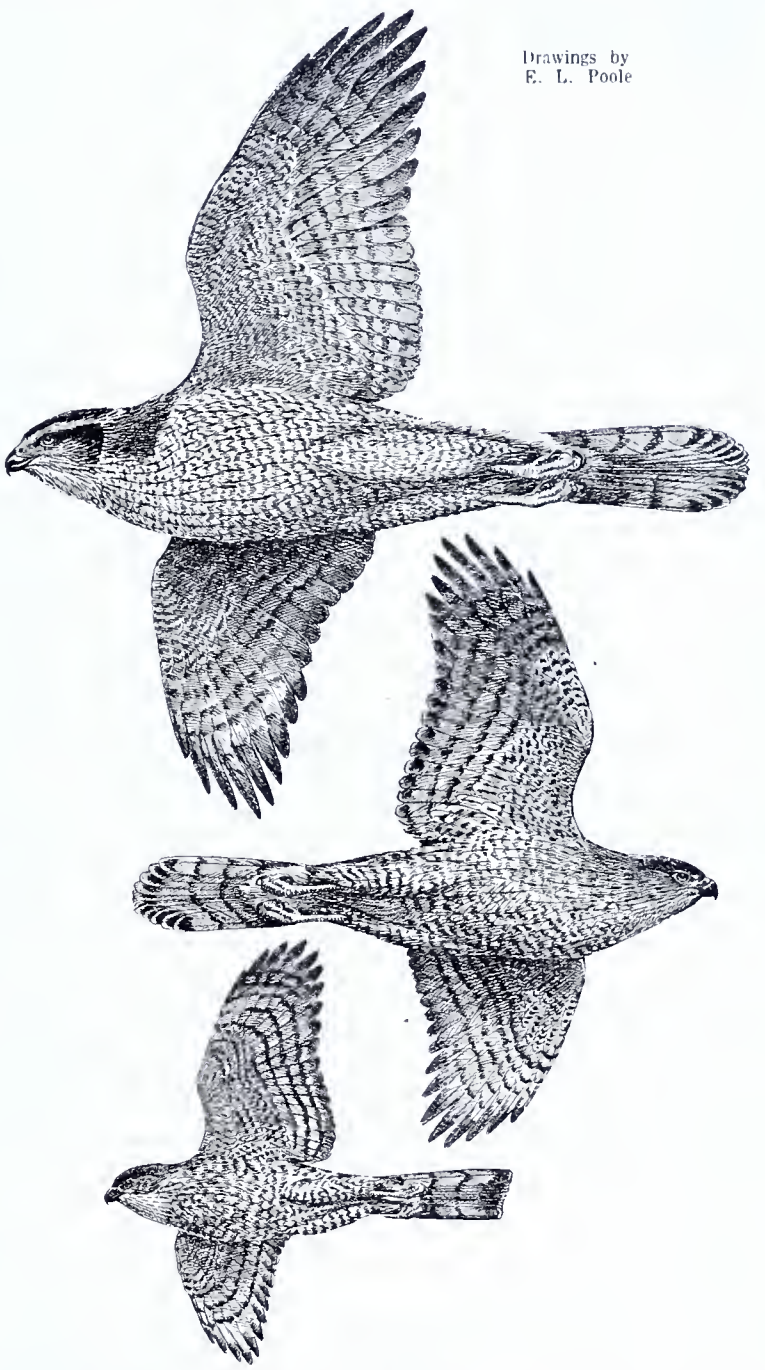
If you sit down sometime and figure out the hawk problem seriously you will find that there is not much difference between a hawk and a human being. We have our normal likes and dislikes, and as long as we have enough of the things we like to keep us happy, we're not going to bother with the things we dislike. On the other hand, when the things we like become scarce, and we can't have the food we are used to, we are very likely to turn around and eat a lot of things we would never think of eating otherwise.

One of the most interesting discoveries of the entire investigation, as I see it, is the fact that in quite a few instances the animals and birds eaten showed positive evidence of having been wounded or crippled before they were taken by the predator. Of course, it must be admitted that most of these findings took place in the fall months, especially during the hunting season, and tended to prove that the hawks were getting away with a lot of crippled game that the hunters failed to find. After all, it is easier for birds of prey to catch the runts and weaklings of a species than it is for them to catch the healthy, active ones.

Have you ever visited the famous Hawk Mountain Sanctuary near Drehersville, in Bucks County, Pennsylvania? This mountain, a chain of the Blue Ridge, is the direct flyaway from the north, and on days following low weather depression areas in southern Canada and New York, hawks by the thousands float majestically past the numerous lookouts—a thrilling spectacle for the hundreds of people who gather there on week-ends to watch the marvelous demonstration.

In years past, when hunters mowed down thousands and thousands of hawks along the Blue Mountain, and one could wade almost ankle deep in shotgun shells at the various vantage points from which they bombarded these beneficial creatures, little was done to stop the wholesale destruction.

At first the shooting was done by only a few local individuals, but as news of it spread, hundreds of other hunters were attracted to the area, which ultimately became nothing short of an abbattoir. I well remember the awful stench of dead birds the first time I visited the mountain.



Drawings by E. L. Poole

Here's how the three harmful species look from below. Top: Goshawk; Middle: Cooper's; Bottom: Sharp-shin. Sportsmen should learn to identify these three species before shooting at any hawks whatsoever.

When the Pennsylvania Game Commission finally investigated, prompt steps were taken to stop the practice. The Commission was handicapped, however, because hunters insisted that they had the right to kill unprotected species, and the Commission had no recourse but to prosecute only in such cases where protected species were involved, and there were then only two protected hawks—the osprey and the sparrow hawk. Enforcement was not as easy as it seemed, for it called for far more surveillance than the Commission's staff could provide at that particular time.

The Commission could not detail a large group of protectors to the area for several months, because of the expense. And a few individuals could not control the area because it was so large and had so many means of exit and approach. Thus little headway was gained at the outset, although striking examples were made of a few individuals who were caught killing eagles, ospreys and sparrow hawks.

Not until the acquisition of the mountain around Drehersville by the Emergency Conservation Council and the employment of a caretaker, was the practice curbed. It still continues in a few sections, but in a short time the Game Commission hopes to have the entire situation under complete control.

Pennsylvania's experience with the hawk problem is valuable to other States and the sportsmen of other regions. It would be unfair to condemn those who have sought a measure of sport by shooting hawks indiscriminately, because the segregation of harmful and harmless species has been made only during the past few years. However, in view of the new knowledge of hawks that has been gathered and now published, good sportsmen will confine their shooting to the three which have been proven by facts and figures to be predacious; the Cooper's, sharp-shin, and goshawk. The others are not only harmless under normal conditions, but very frequently are beneficial, particularly to farmers.

At the present time the Game Commission is making stomach examinations of Great Horned Owls. The analysis, when completed, promises to be extremely interesting. Since October 1, 1937, when a bounty was declared on these owls over 750 have been examined. The report, when finished, will be published in the GAME NEWS, official monthly magazine of the Commission.

The Commission is likewise continuing its examination of hawk stomachs, a report of which also will appear later on.



CROSS PATCH

By ROBERT OSBORN STEELE

SAM TUCKER and Jim Douglas sprawled around Jim's room growling over the relative merits of a rakish red son of Ireland and proud ticked black and white from England. They had known each other since they were knee-high to a grasshopper and time had developed a solid, wholesome friendship, but the subject of bird dogs caused sparks to hop between them and to an outsider they gave the impression of an impending free for all. Since neither could produce conclusive proof of his contentions the argument was gradually becoming perpetual.

Jm was the proud owner of Kerry Patch of Killarney, a flaming Irish setter of noble birth. Kerry had a lineage a mile long and running through his ancestors on both sides was the well known Patch strain which gave him his full feathered tail, his deep broad chest. To see him work was to watch perfection in action. He was calm and collected in the field and never over-ran a bird. It was nothing to see him pick up a covey of quail and then coolly point out the singles one after the other. He pointed both ways from Sunday and never allowed a cripple to escape. To hear Jim ramble on you knew there could be no other dog like Kerry and no other heritage so important as the Patch line.

Sam always feigned sleep when Jim insisted upon talking about Kerry and Jim usually got up and mixed himself a drink when Sam started to expound the merits of Cap. Captain Cross of Covertshire was the name of Sam's English setter and a more beautiful animal never drew breath. Proud and disdainful he carried the Cross strain in his marking and manner. Cap could cover more ground than any other bird dog alive and when he swept through a field it was swept clean. A running pheasant was child's play since he merely out-distanced the bird, turned it back and at the proper distance from Sam brought it up to a seat and held it there. The greatest thing in Cap's favor was his ability to retrieve. Soft mouth, gentle demeanor and all that sort of thing. To Sam, Cap was perfection dogified.

"Are you listening," Jim asked, hesitating for a moment in his explanation of why Kerry pointed from the side.

Sam shook his head wearily. "If he pointed from the side it was because the scent drifted that way," he sighed. "No dog knows enough to turn a bird across his man. Anyway, a going away shot is easier than a cross shot and I think your dog is nuts."

Jim's face turned red and he sputtered audibly as he removed his pipe from his trembling mouth.

"An Irishman has more sense than a dozen English dogs," he yelled. "Remember the field trials this year?"

Sam sulked deeper in the big arm chair holding his head in his hands. It was not his day and he knew it. An Irish setter had captured the trials and he resigned himself to hearing the tale for the thousandth time. To make matters worse the sorrel brute had a liberal amount of Patch blood in his veins and Jim always used that as a climax.

Of course, last year it was different. A little English bitch had walked right through a classy field to win. There was nothing to it, Sam remembered, the finals were all English. He recalled how Jim had squirmed when he was told about it, and particularly when he heard that the winner was distantly related to Cap.

The fact that it might have been the dog that won and not the breed was never admitted as debatable evidence, An English win meant that Cap was tops, an Irish triumph scored for Kerry.

Sam lowered his hand and peered at Jim through his fingers.

"If you had an ounce of reason, old boy," he muttered, "I'd suggest a solution but I suppose you would turn it down."

Jim paused to look at his victim suspiciously.

"Depends on what you suggest," he growled.

"How about running Cap against Kerry, shoot over them, retrieve—heel, the whole works," Sam suggested. "If Cap wins you admit forever that an English setter is the best field dog; if Kerry wins I'll always vote for a dog from the Emerald Isle."

Jim turned the idea over in his mind. It was his privilege to gloat over Sam for a year but on the other hand if Kerry won he would strut forever.

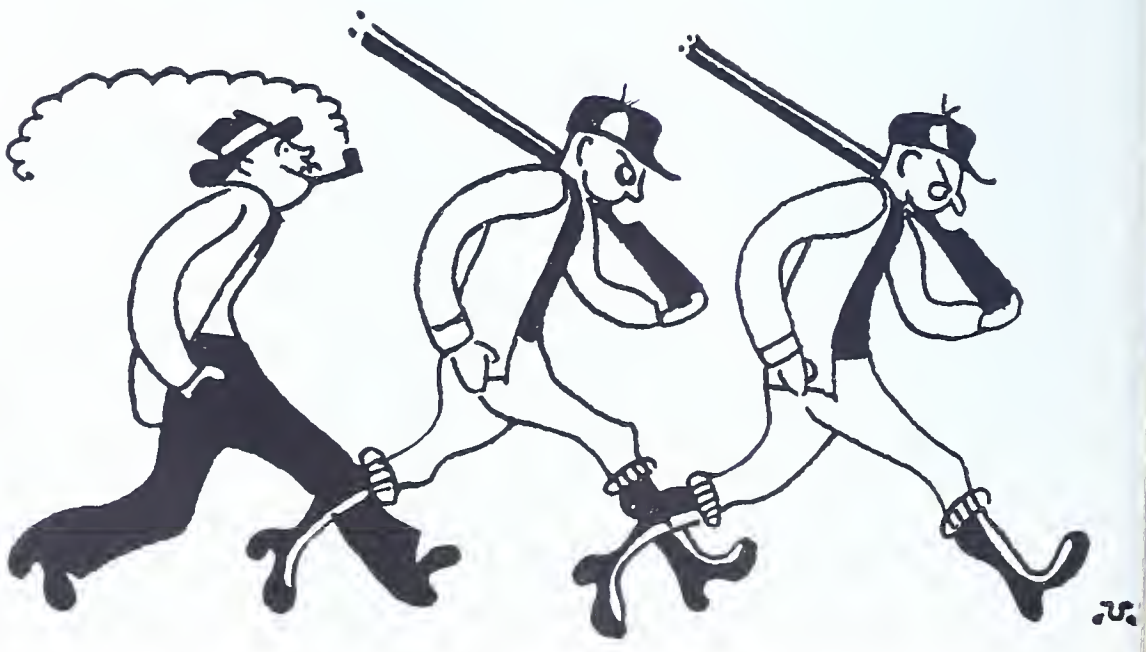
"Who will be judge?" he asked.

"Thought we might ask old Doc Livermore," Sam went on, "he knows a good dog when he sees one and we could run them on his farm, it's usually chock-full of birds."

The thought grew more and more attractive to Jim. The cover on the Livermore farm was heavy, where there was grass it was left standing, the fence lines were never cleaned.

It's a good idea," Jim finally conceded "Let's do it tomorrow." And so it was settled.

The following morning found Sam and Jim heading out the turnpike with their dogs in the car. Although the Livermore farm was thirty miles out, hardly a word was spoken. Both dogs had received a brisk rub



CROSS PATCH

down, their coats glistened and their eyes sparkled. They were truly a remarkable pair of field dogs.

The car turned in at the lane, rumbled over frozen wagon ruts and pulled up at the pump near the kitchen door.

"Well, here we are," Jim said, looking off over a field of standing grass. "Nice clear day. Plenty of cover."

"Too much for your red hound," Sam muttered.

Jim didn't bother to argue, he hopped from the car, released the dogs. They raced around the house which was the usual signal to Doc who waved to them from the window before he came out.

"Howdy, boys," he greeted them. "I was expecting you about now."

His hunting shoes scraped on the porch floor as he walked toward them and his weather-beaten face wrinkled with a smile until his keen blue eyes completely disappeared. He had known Sam and Jim since their short pants days and their fathers before them. He had taught Sam the mysteries of wing shooting and to Jim he had bequeathed his skill in timing and lead.

Their perpetual arguments over their dogs was a source of sly banter and he looked forward to their yearly visits with much pleasure.

"Better keep those precious dogs of yours heeled up, boys," he continued, "or they'll be pointing birds under your car."

"That's what we're here for," Sam laughed, and went on to explain the very serious object of their visit.

"Will you take the job?" he concluded.

Doc, glancing from one to the other, saw that however much they tried to conceal it, this trial was to be far more important than all the Tri-States rolled into one.

"Well," he drawled, "Every day's an off day during the season. I think I could arrange to walk around with you but I don't aim to be the cause of any trouble."

Jim gave his assurance that they would take his decision as final and after assembling their guns, they whistled for the dogs and started down the field.

Kerry quartered to the left, cleaned up the field to the fence line and started back but Cap charged down the center before he veered off to the right. The grass was high, ideal cover and the running dogs were pretty much hidden except for their tails and heads. As they ran their paths made even ribbons across the field, they were finished dogs in action.

About the center of the field they came together and simultaneously slowed up.

"Looks like we're getting somewhere, boys," Doc remarked quietly.

"Cap's on point," Sam called.

"Look at Kerry backing him up," Jim pointed out.

"It's nice work," Doc conceded. "Let's see how they stand for shot."

They approached the rigid dogs carefully. If the dogs had been carved of stone the point couldn't have been more solid but suddenly Sam stopped.

"What's that up ahead of Cap," he asked.

The others paused and peered ahead. They could see a dull red plume held rigid just above the grass. It ended abruptly in a mottled body of black and white. A third statue buried in the grass, there couldn't be any doubt of it and it was pointing in front of Cap.

Doc whistled softly to himself. "Boys, I'm afraid you'll have to start over. That's our dog Gal up there. She's not much good except to bring in cows but she likes to point birds now and then. Must have noticed when you drove up and stepped out to help you."

Sam frowned, it spoiled Cap's point but then the day was young.

"Shall I chase her?" Doc offered.

"No," Jim replied, "might as well shoot over her. Maybe the shot will send her back home."

But the shot and the plunging bird didn't disturb the dog Gal. She was as rigid after the bird came up as before.

"Fetch it, Gal," Doc commanded, and she moved off quickly to retrieve and placed the warm pheasant in Doc's outstretched hand.

"I'm sorry she spoiled Cap's point," Doc said with exaggerated politeness.

"Forget it," Sam grumbled. "Just an accident, she'll probably never point another bird as long as she lives."

They shooed the mongrel girl toward the farm house and started down the field again.

But Doc, walking up ahead, chuckled to himself. There might be a way to break up this argument about Irish and English he thought.

The dogs were off again and the three men fanned out across the field. The high field almost concealed the dogs but you could follow them easily by the swaying grass. They approached the fence line cautiously as the dogs converged on a clump of honeysuckle draped over a fallen log.

"Both on point," Doc announced with a chuckle. "They seem to think there's game at the fence line. Hold for a minute until the judge climbs the fence to get a better view."

Sam and Jim waited patiently and then walked forward slowly. The dogs were on rigid point about twenty feet apart both pointing at a spot midway between them. There was no backing up, they both had the point.

Doc straddled the fence and motioned them to come in. A slight movement on Sam's part set off the fireworks and the air was filled with flying feathers. A dozen quail in that covey if there was one. Sam got a double but Jim merely one. The dogs waited for the command and retrieved the birds perfectly.

"Well that's more like it," Jim remarked with a grin, "pretty swell work, eh Doc?"

But Doc seated on the rail fence was absorbed in other things.

"Nice work so far as it went," he mumbled. "Look here, boys, I didn't want to disturb but this blasted she dog of mine is on this side of the fence and she's still on point."

Sam looked at Jim apprehensively. If what Doc said was true, then both Cap and Kerry had broken point, but probably the dog didn't know what she was doing, just pointing. Sam swaggered to the fence unconcerned, when almost from under his feet swirled



up the brave single that Gal was pointing.

The day went on much as it started. Birds were plentiful and they got their full bag, but there was Gal in every point. They tried to chase her home but she always turned up at the unexpected moment like when she found the crippled pheasant up the gully while Cap and Kerry were fooling around down in the berry patch. She often picked up a stray single after the sons of royalty had signalled that the field was clean.

This business got on Jim's nerves and finally started to affect the dogs. They overran birds, flushed coveys out of range and even lost a dead bird in plain view. The climax came when Cap pointed a rabbit and when it jumped he chased it down the road. Gal looked around questionably at Doc at their performance and then sat on her haunches to wait for Cap to return. She had a grand day although no one else seemed to appreciate it except maybe Doc.

He, for reasons of his own didn't tie the little maiden up. Although he apologized profusely every time she out-smarted the other dogs, he never scolded her and Sam noticed he gave her a pat of encouragement after a particularly brilliant performance.

On the way back to the farm house curiosity got the better of Sam's impatience.

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FUR BEARING ANIMALS ADD TO FARM INCOME

By J. N. MORTON

Muskrat Most Valuable Fur Animal

THE value of furs taken from fur-bearing animals in Pennsylvania each year averages more than $1,000,000.00. A large majority of those who trap fur animals includes farmers and their sons who depend upon this source of revenue to increase the farm income.

This extremely valuable resource is very much neglected and little attention is given to the fur animals except when it comes time to trap and skin them.

The two principal fur-bearing animals which are ordinarily trapped in the farming sections are the muskrat and the skunk. The muskrat is the most important of all fur-bearers. It is found in nearly every section of the State where there are streams, ponds or marshes. Marshy areas with sluggish water are preferred haunts. Banks of creeks and ditches are excellent possibilities for the production of muskrats and minks.

Many times the farmer considers his marshy or swampy places as entirely worthless. As a matter of fact he can make them as profitable as any other part of the farm. Instead of attempting to drain them, or instead of using them as dumping grounds, they should be fenced against pasturing stock and perhaps a small dam built at the main part of the stream. Preventing grazing along stream banks will also assist in attracting muskrats. Many such places as marshes and stream banks are havens for muskrats and other fur animals, as well as other wildlife. Muskrats will multiply rapidly where conditions are favorable. They are the most prolific of fur-bearers. They may raise three litters of from four to nine young each year. If the places which are their natural homes are given some protection, they will, therefore, increase fast enough so as to yield a profitable annual crop of fur.

The principal food of the muskrat is aquatic or water plants, mussels and sometimes crayfish and fish. It is usually possible to encourage the necessary vegetation on which they feed. Pasturing stock destroys the muskrat food along the streams and marshy places on the farm. When grazing is prevented in such places, food plants will usually make their appearance. As a start, it may be necessary to plant some willow cuttings or other material. Willow shoots are cut by muskrats and stored as winter food. Other water plants which furnish desirable food or cover for muskrats are cattail, sweet flag, three blade grass, bulrush, duck millet and reed grass.

The money received from these animals which are trapped in the winter will be a welcome addition to any farm income, especially to the boys interested in laying aside funds for school use.

Skunk Is Important Fur-Bearer

Another fur animal usually found around farming areas is the skunk or "polecat." It is next to the muskrat in importance. It is a creature of pastures or open ground near borders of thickets or woodlots. He prefers open places alternating with shade and shelter. His value to the trapper is unquestioned. This animal along with the muskrat forms the backbone of the fur industry in this State. During the past three years the value of skunks taken by Pennsylvania farmers, boys and others engaged in trapping amounted to $909,250, or an average of more than $300,000 annually.

The skunk in reasonable numbers should be encouraged and protected because of his fur value. When the animals become so numerous as to cause serious losses to poultry or nests of eggs his numbers should be reduced. The skunk, however, is probably 75% beneficial on the farm aside from his fur value. They usually feed upon insects, grubs, mice, rats, frogs, grasshoppers, small birds, eggs, fruit, berries and occasionally poultry. They turn over many rocks in the fields in search of beetles and often dig out the nests of yellow jackets. Fifty to ninety per-cent of the skunk's food is composed of beetles, wasps, grasshoppers, grubs and numerous other destructive bugs and insects, including potato bugs.

The home of the skunk usually consists of a burrow, hollow log, or stone pile in which the young, numbering from four to twelve, are born about April. The skunk will live in a den dug by another animal, but he can dig his own den.

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Banks of creeks are excellent possibilities for the production of muskrats.

WANDA'S CHILDREN

by Robert J. Wheeler





THE world about her was very lovely when Wanda first opened her eyes and looked wonderingly around. April, with her sudden warm showers, had come to the woods and everything was awakening. The Bluebells had just opened their sleepy eyes and were coming out of their winter coverings. Fern fronds began to peep above ground and unroll; arbutus buds showed a faint tinge of pink; the stately Skunk Cabbage unfolded its fresh green leaves as it pushed its way upward; every little twig and bush began to have a verdant hue.

Overhead, the beautiful "Shad Bush," as the Juniper is called, was covered with delicate, white blossoms; flowering Dogwood showed a faint yellow as its flower buds began to burst.

All along the swamp edge, the yellowing willows were shedding winter coats from their buds; here and there, bunches of "Pussy Cat Willows" stood covered with fat catkins.

Tall soft maples suddenly burst out in red blossoms; on the ground the low huckleberry bushes turned from greenish yellow to white as their bell like blossoms came out.

Hillsides began to be covered with dainty Anemone and Bloodroot. Dutchman's Breeches unfolded its pearly flowers. Saxafrage bloomed in the niches of the rocks along with the rare Walking Fern.

The birds were back from their winter vacation in the South. The woods rang with their happy voices. Bob-O-Link, brave in his gleaming coat of black with red or yellow epulets on his shoulders, was talking excitedly with Blue Jay, who does not go South in wintertime, describing his adventures and boasting of "the fattest worms, my dear."

Butterflies of every description and color were breaking out of their winter cradles. Some sat on tree and bush limbs, slowly drying out their wings in the early morning sun; some were already able to fly. Every hollow reed gave up its swarm of spring flies and gauzy winged gnats.

Peepers sang in the water holes; Mr. Happy-Toad and his many wives were setting up housekeeping in all the little ponds.

Green grass grew in the open places in the woods where the deer had destroyed the underbrush; and in the fields it lay like a shimmering carpet of green.

Wanda, the little spotted fawn, lay quietly in the leaf nest where her mother had hidden her. The warm sun made her sleepy; she dozed as she waited with that tireless patience of the wild things. Suddenly she was wide awake as her returning mother nuzzled her with soft muzzle. The little fawn got to her feet and stood swaying weakly; all at once she was terribly hungry; she came close to her mother and nozed at her, making funny, little sucking sounds. At first she could find nothing; but after a while her little grasping mouth found something to suck and once was filled with warm, sweet milk. How good it tasted! She stood there on her puny legs that spraddled out and barely held her up as she drank and drank until her little tummy was filled to the last bit of room.

What a wonderful change the warm milk made in Wanda! All at once she was strong. Her legs had spring. She jumped about and gamboled; her soft eyed mother following her about with short, plaintive bleats.

Warm days followed and the little Wanda grew fat and frolicsome. Her red coat was spotted all over with little white blotches that stood out against the red background of her body color. She was the prettiest thing in the woods.

One morning, Wanda's mother took her quite a ways from the swamp to where a big, green field bordered the edge of the woods. Out in the middle of the field stood a big white house. With the fawn following her timidly, the mother deer entered the field and grazed a while on the short, tender grass. It was very quiet; no dogs were about. After a while, Wanda and her mother found themselves quite close to the house. A woman came out and when she saw them she called: "Oh Jimmy, Mary, come out and see the pretty deer." Two children came running out and joined with the woman watching Wanda and her mother. The woman came slowly toward the deer; but the shy animals drew away. At last, Wanda's mother threw up her white tail and made for the woods in long leaps, Wanda following in short, stiff legged jumps.

But a few days afterwards, when the lady came out in the morning, there were Wanda and her mother, grazing again in the field.

The lady, whose name was Mrs. Majors, went back into the house and got a small pan and filled it with a mixture of oats and corn which she had to feed her chickens, mixed it with a little salt and came out again and walked toward the deer. They shied away at first; but Mrs. Majors placed the pan on the grass and went back again to the house. For a long time, Wanda and her mother stood watching; then the natural curiosity of wild things drew them toward the strange object. As they drew near they smelled salt. The scent of the salt helped overcome their timidity. Before long Wanda and her mother were eating eagerly out of the pan and Mrs. Majors and the children were delighted at their success in taming the deer.

All through the spring and summer and late into the fall Mrs. Majors fed the doe and fawn. Long before the time for the Majors family to go home Wanda and her mother were tame enough to eat right out of the hand. The good lady became so fond of the deer and so proud of her achievement in taming the beautiful wild creatures that she often invited her neighbors to watch when she fed her pets every evening.

SPEAKING OF CROWS

By GEORGE W. HENSEL, JR.

THIS is the season of the year when men, styling themselves sportsmen, go forth with gun in hand and in the still watches of the night, when the unsuspecting crow is at roost on tall trees, stealthily enter woods and, pointing the muzzles of their guns heavenward, bring down the species by the bushel. And this in the name of sport. We submit the life of a cow in the meadows will soon be in jeopardy if ideas on sportsmanship continue evoluting along these lines.

If such sportsmen were to load their guns with powder only and fire to scare the crows, and send them helter-skelter to perhaps have them abandon the roost, that might provide some fun at least but it would lack the killing effects.

Deeply implanted in the human breast is the desire to kill something. With manifestation in children who tread upon the "woolly worm" as it travels on paths trodden by pedestrians; in bad boys who invade private property to shoot at birds, which lovers have fed through the bleak winter months; in men who should know better than to try to hit and run over the land turtle as it crosses the highway, and in men of greater reputation who go into jungle lands to shoot anything up to an elephant and return to be worshipped as heroes. The gorgeous ringnecked pheasant, the frolicsome chipmunk, grey squirrel, opossum, coon and the wisest of all animals, the ground hog, must dodge to exist. And then we are awe-stricken when mobs wreak their vengeance in the pursuit and torturing of criminals with whom the orderly processes of the law should deal. We have not been retained by the crows, nor do we hold in particular a brief for them, but we plead guilty to a sense of the equities in all things including the rights of creatures to live and move and have their being, even as the rights of mortals to life, liberty and the pursuit of happiness.

A certain corporation manufacturing ammunition, some years ago, on their own responsibility, declared war on the crows, decreed their annihilation, and offered premiums to the gunmen who would kill the greatest number. Subsequently, and in short order, they learned more about crows than they ever knew before, and, among other things, that crows have certain rights, many virtues and influential friends, and the war on the species ended, and later a "statesman" from an upper county soared to the realms of the front page by introducing a bill for the wholesale killing of crows and he would have the great State of Pennsylvania pay five cents for crow heads. The name of the statesman is public information. As to who he is, what he does for a living besides helping to make laws, or why he has it in for the crow, deponent knoweth not. We surmise why he is in the legislature, with a more intelligent idea than did a fond father who had a wayward son, who went from bad to worse, drifted West, and was lost sight of for years. To the astonishment of the parents and family, one day a letter was received from him, and the old man assembled the family to read it aloud. It wound up with this sentence, "I'm in the Legislature now." The father stopped, raised his glasses, and with a sigh observed, "But he doesn't say what for." The up-state statesman is in the Legislature to kill crows, and since they roost high and fly higher his is a lofty ambition.

Some few weeks ago school boys, juvenile youths from Down Gap Way, were enlisted to move with murderous intent upon the festive crow, more mature individuals were to command the expedition, and the Commander in Chief was said to be a public official. They were to go out in the morning, and not to march by night, but the army did not move; the declaration of war seemed to have been rescinded. To the credit of the Army of the Gap, they meant to give the crow a chance. Similar movements have been held in check throughout the country. For the information of crow killers and to the end that they may not remain permanently on the list of misguided people who know not what they do, some observations of the highest authority, servants of Uncle Sam, are submitted. They say, "it is doubtful whether any bird is of as great economic importance to the farmers of Eastern United States as the crow." Another high authority declares, "the bird is 52 per cent. good, 48 per cent. bad," which average is better than that of the average man. We have authority for this. Two-thirds of the bird's food or about one-fifth of the whole diet of the crow, is composed of insects, and these include many of the most destructive pests the farmer has to deal with. "Its share of insects is made up almost exclusively of species found on or near the ground, which they secure from beneath the surface by turning up clods of earth, sticks, stones and dung." In these operations men imagine they are stealing corn.

From early springtime until fall this is their method of search. In some parts of the West, short-horned grasshoppers are terribly destructive and it is estimated farmers suffer the loss of millions of dollars.

This particular species is nothing less than "pie" to crows and the crow saves the same farmers millions of dollars. In the stomach of one crow 87 May beetles were found; in another 72 wire worms. The latter are corn cutters, plus. In a Michigan crow's stomach 483 small caterpillars were found. Are crows with such records and capacity assets or liabilities of the farmer? The character of the food of crows becomes the strongest arguments in the bird's favor. As a carrion feeder, they supplement the good work of the turkey buzzards, and they are protected. If they are 52 to 48 good and bad, like men they must be restrained. The chicken-stealing crow may well be shot. If they assemble in too large numbers they need be dispersed and compelled to move on. Their serious offense is the stealing of chickens. For that preventive methods may be applied, or shot administered as suggested. They will suck eggs, but unlike politicians they do not hide the shells.

Their offenses in robbing birds' nests are mitigated by the depredations being made in the early spring, giving birds the chance to lay eggs and hatch young after the crow disposition to rob nests has undergone the "seasonable change." Robins appropriate the early cherries and by the time the later ones mature have had their fill but who would think of killing robins for the reason that they like cherries? Crows are charged with stealing corn after it has been planted. The farmer who does not use "Crow Repellent" simply does not know his business. That preventive not only stalls the crow but the squirrel and cutworm.

The crow has been charged with stealing "shiny" articles, including silverware. A General in the Civil War stole spoons by the gross in Louisiana and was promoted. Later he ran for President of the United States but was distanced. On the whole, the crow is not as black as it has been painted. Its crimes have been exaggerated, its virtues minimized. Slanders heaped upon this bird are largely due to a lack of knowledge of the species

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Our Guest Author in this instance is none other than the internationally known philosopher and sage of Quarryville, Pa., Grand Potentate of the Slumbering Groundhog Lodge.

THE CROW

We all should heed the triumphant deed
Of this valiant friend of man,
And all should know the sable crow
And lift the cursed ban—
That we all place upon his race;
A curse that we can't explain—
But we must confide—we take great pride
In destroying his domain.

Since the earth began the race of man,
Has waged a relentless war
On this sable bird which man preferred
To banish forevermore.
But now we know that the lowly crow
Is a part of the infinite plan,
And that he's worth the praises of earth—
For he's a true friend to man.

In the struggle and strife—we wage for life,
The crow is essential as air;
For without his aid the insects would raid
The food crops everywhere.
The people would starve and the bugs would carve
Destruction through the land—
No food to be had and man would go mad,
And death on every hand.

So let's take a vow and start right now
To protect our feathered friend—
We'll give him a boost and protect his roost
And give him a helping hand.
We'll make it a law that his raucous "caw"
Must never never cease,
And place his name in the hall of fame
And let him live in peace.

—Robert E. Dively



Top row left to right—7 point buck shot near Nordmont by camp of Ringtown and Pottstown winners, photo by Edgard Schmidt, Ringtown, Pa.; Black bear killed by Ralph Port, Wysox, Pa.; Illegally and accidentally killed deer delivered at Mifflin County Almshouse by Game Protector, Ralph McCoy, photo by Leroy Leach. Second—Mallard ducks on Pymatuning Dam, photo by S. M. Layton; Circle, L. M. Brown of New Albany with 5-point; Circle, Member of Red Lion Sportsmen's Association feeding game; Fawn killed when caught in wire fence. Third row—CCC Boys in Monroe County helping feed game on military reservation, photo by Game Protector, T. T. Schafer; Refuge Keeper, Elmer Pilling and Deputy Lawson Henry with Pilling's dog "Tiny." He is a regular cat dog and how he gets them; Martin Wearton with 8-point. Bottom row—Six big ones killed in the Renova section. One 10-point, one 9-point, three 8-point and a 4-point; Circle, Hon. Samuel Truscott, Member of the Fish Commission and Seth Gordon with bear cubs; Corel Gee of Asaph with 1937 fur catch; Circle, Tom Shreffler at game feeding station.



Staff heads, officers of Div. A, and local sportsmen looking over release cuttings to provide deer browse.

CURRENT TOPICS

GROUNDHOG HUNTERS BE CAREFUL

During the past ten days three persons lost their lives hunting groundhogs—all sacrificed on the altar of promiscuous shooting.

In reviewing the circumstances of each of these cases, it has clearly been determined that gross carelessness has been involved, and that many hunters are attempting to kill groundhogs at distances far too great to assure full identification. Invariably such offenders have seen a "brown spot" in a field, and believing it to be a groundhog fired with deadly accuracy only to learn too late their fatal error.

The time is past when such carelessness can be excused as accidental shooting and the Commission is determined to stop this needless loss of human life. Hunters are warned that every facility will be utilized by field officers to investigate and to assist local authorities to vigorously prosecute every case.

The Game Law provides severe penalties of from $500.00 to $1000.00, and in addition to the cash penalty such careless hunters may be committed to jail for a period of not less than two years nor more than five years, also that licenses will be revoked for periods up to ten years.

A letter is being forwarded to all District Attorneys throughout the State urging their active cooperation in the prosecution of these cases, and assuring them of the complete cooperation of the Game Commission in making investigations and prosecutions.

IN MEMORIAM

Lisle Morrison, for years a familiar figure at agricultural fairs, sportsmen's shows, and expositions as a representative of the U. S. Biological Survey, died suddenly at his home in Takoma Park, Md., on May 22.

Doctor Gabrielson, Chief of the Survey, in commenting on Mr. Morrison's service said, "It has been of outstanding merit. He developed the Bureau's exhibit work far beyond anything that had ever before been attained, and he has set an example that will be of lasting benefit to his successors."

GAME VIOLATORS PAY

Eleven of the twelve defendants who were prosecuted for violations of the Game Law in Sullivan County, following the 1937 big game season, recently admitted their guilt and cleared the Game Commission's docket of these cases.

These prosecutions were the culmination of determined efforts of the Commission to stop Game Law violations in the vicinity of Hillsgrove, which have been continuing over a period of years.

There were 24 charges lodged against twelve defendants comprising twelve different types of violations. Among those included were unlawful sale of a deer; attempting to kill second deer while standing on watch; failure to maintain proper roster; killing of deer through the use of an artificial light; non-resident hunting without proper license; hunting deer at night; attempting to kill an antlerless deer in closed season; attempting to kill ruffed grouse in closed season; shooting at random and attempting to kill rabbit in closed season.

Eleven defendants who pled guilty paid cash penalties of $425 and costs of $109. One defendant was committed to jail for 100 days but released fifteen days later when he paid the balance of the penalty in cash.

The remaining defendant, Ralph Casselberry, of Hillsgrove, Pa., who was prosecuted on six charges with penalties totalling $535, agreed to enter guilty pleas to the charges. However, he later changed his mind and indicated his desire to stand trial in the June term of court, when the Commission will vigorously prosecute the charges. The total penalties and costs to which Ralph Casselberry is liable exceed $600.

The defendants, and their addresses are as follows: Frank J. Bradley, Glenside, Pa.; Daniel H. Bradley, Glenside, Pa.; Fred Bonds, North Hills, Pa.; Corbin Lewis, Hillsgrove, Pa.; Harry Casselberry, Proctor, Pa.; Floyd Norton, New Albany, Pa.; Walter Casselberry, Proctor, Pa.; Walter Phillips, RD, Forksville, Pa.; Lloyd Schecker, Valley View, Pa.; Watson Bagby, Baltimore, Md.; and Thomas Boatman, Hillsgrove, Pa.

DEVELOPS FOOD PLOT MIXTURE

A seed mixture known as Pennsylvania Game Food-plot Mixture was recently developed and used extensively by officers of the Game Commission and cooperative

CURRENT TOPICS

sportsmen and farmers in an attempt to increase the natural game food supply.

The mixture consists of eleven grains, containing sudan grass, dwarf broom corn, Japanese Millet, Wheatland Milo, buckwheat, proso, sorghum, sunflower and flax. By so combining these various grains a continuous supply of food for game is provided from early fall until late winter. Several seed companies made up an aggregate of four tons of the mixture, practically all of which was purchased by Sportsmen's organizations and individuals. A quantity was also used on State Game Lands and Refuges.

The seed is planted at the rate of fifteen to twenty pounds per acre which means that more than 500 acres of game food in small plots were provided by the four tons of seed used. Immediately after they started the program Pennsylvania Game Officers were besieged with requests from over a dozen states concerning it.

GAME FOOD SUPPLY THREATENED

Late heavy frosts in widely scattered parts of the State during the past few weeks has seriously threatened the supply of game food in the affected areas. Many nut trees have been damaged, and in almost all sections the crop of certain game food producing shrubs has been practically destroyed.

This anticipated scarcity of fruit, nuts, and berries, which provide much of the normal game food, means that sportsmen and other interested individuals will have to make every effort to have grains planted to supplement the supply.

All interested parties are urged to immediately make arrangements with farmers in the affected areas to leave a few rows of grain stand near woodlots, brushy gullies, and other good cover in order that wildlife may have ample food during the coming fall and winter.

THE STRAY CAT PROBLEM

Philadelphia Evening Bulletin gets letters.

Sir: In the argument over stray cats there is a great deal of difference between the killing done by hunters and cats. The hunter kills only about three species of upland birds in this locality (quail, ruffed grouse and pheasant). The cat kills any bird, song, game or insectivorous. The hunter can shoot only about one month of the year, but the cat kills all the time and especially during the nesting season. The hunters pay a license to propagate game and stock the fields—the cat does not. Many believe hunters kill more birds than cats do but the cat is one of the greatest wildlife predators. I have seen well fed cats kill birds and even half grown rabbits and leave them lie without eating them. Cats in cities do much good by keeping rats and mice in check, but in suburban or rural sections the harm they do to wildlife is intolerable.—Elmer R. Astermuhl.

Sir: This "monster stray cat" is a poor creature that has been carried into the country by an automobilist, who finds an easy way to get rid of an undesirable animal. During June, July and August, the cat with a home and the cat that has no home destroy a small portion of the young of wildlife. The former cat confines her energies near her home, seldom more than 200 yards from the house. The stray cats are comparatively few. The farmer does not keep cats for pets, but on the score of necessity. Cats keep vermin reduced to a minimum, and let me further add, the farmer does not want his cats shot. The trespass board is his protest.—John G. W. Dillen, Media.

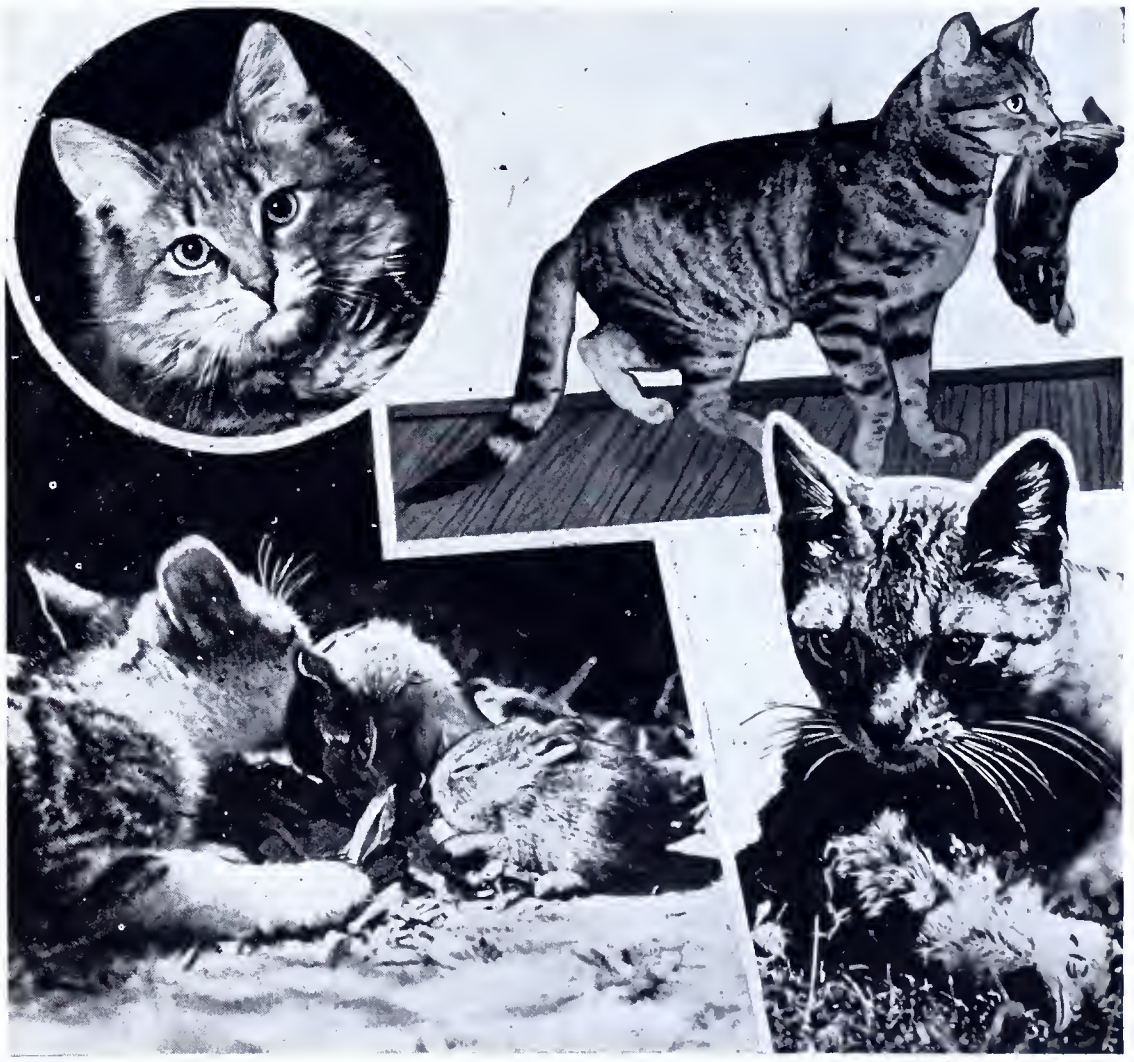
Dear Sir:

In answering Carter A. Jayne's article on "Cats" in the March GAME NEWS, I still believe that a good cat is a dead cat. Also Mr. Jayne should write Judge Grover C. Ladner a letter asking his opinion of cats. Judge Ladner made a statement that all cats should be licensed and that all hunters should kill every stray cat found in the woods or fields.

I have lived on a farm for several years and have always had three or more cats around the barn; meaning to say, the cats were in or around the barn if they weren't in the fields or woods hunting game and birds. There was one thing I could be sure of and you could bet your last bottom dollar on it—that they **would** be in the barn at milking time. They sure did like their milk. I made an opening in the granary door for them but I never saw a cat in there. There were plenty of mice in the barn and granary if they wanted to catch them, but they preferred tastier meals.

On several occasions I found the cats bringing home quail and young rabbits. I shot at them a number of times at long ranges thinking that would cure them, but they only jumped in the air with a big Me-ow, threw their tails toward the sky and dashed for the barn. In a day or two they were out in the fields again. I wanted to kill them, but on account of my father, I did not do so then. You can rest assured there weren't any cats left on that farm the day we sold it. I had to use rat poison to rid the barn of mice and rats. I use rat poison now when necessary and find it very effective. In fact I am thoroughly convinced that a good rat poison is cheaper and of greater benefit to a farmer than it is for him to keep two or more cats around, feeding them milk and getting no results.

There is one thing I must agree with Mr. Jayne. The sportsman and hunter must realize that most farmers are used to having cats around their places and want them there, so we must respect the farmer, his property and his stock, regardless of how we feel about it. So let us work with the farmer, as much as possible. — Donald Mooney, New Castle, Pa.



Control the stray cat.

CURRENT TOPICS

PYMATUNING MUSEUM

A museum in which to display mounted specimens of wild waterfowl, shore birds, and other migratory species is being constructed by the Pennsylvania Game Commission in Crawford County. The building, of frame construction with an overall length of 88 feet and a width of 22 feet, is about 85% completed. It will present a very attractive appearance, especially after the grounds surrounding it are suitably landscaped in a natural setting.

The room provided for the exhibition of specimens is 50 feet long by 22 feet wide. Toilet facilities for both men and women will be provided in one end of the building which is separated from the museum by an open passage way. Ample parking spacing will be provided nearby.

The Pymatuning Museum is connected with and may be considered a part of the Pymatuning Game Refuge established by the Pennsylvania Game Commission within the Pymatuning Reservoir Project several years ago. The refuge contains approximately 2500 acres of water and about 1170 acres of land and includes what is known as Ford Island.

The museum is located on Ford Island about one mile South of the town of Linesville. It is plainly visible from the highway extending from Linesville to Jamestown. That portion of the highway just south of Linesville forms the breast of the upper reservoir of the Pymatuning Project, and it is this upper reservoir which has been set apart as a refuge.

A newly constructed dwelling for the Refuge Keeper is likewise located on Ford Island, a few hundred feet from the museum.

The primary purpose of the museum is educational, and when completed and fully equipped will provide a wonderful opportunity for the public to view and study many varieties of ducks, swans, brant, geese, teal, herons and other migratory birds in their plumage of different periods of the year. Habitat groups will also be a part of the exhibit. In the neighborhood of 200 specimens will sooner or later be mounted and placed in the museum building. More than 100 specimens have already been mounted and are ready to be placed in exhibit cases.

The Pymatuning Game Refuge has, as anticipated, become an unusually popular area for migratory species to stop for food and rest during their spring and fall flights across Pennsylvania. A recent estimate indicated that between 40,000 and 50,000 wild waterfowl rested and fed within the Pymatuning Refuge in one day. The refuge has likewise become popular as a nesting area for certain species of wild waterfowl. Some twenty or thirty species have nested there during the past several years.

Although the Pymatuning is considered primarily a waterfowl refuge, it likewise provides protection for a number of species of upland game including ringneck pheasants, bobwhite quail, cottontail rabbits, etc. Every possible effort is being made to increase the amount of food and cover suitable for both waterfowl and upland game.

PLANT GAME FOOD

Over one-half million trees, shrubs, vines, and cuttings, were planted to improve game food and cover conditions on State Game Lands this spring.

The planting included more than 238,000 evergreens for game cover and reforestation purposes and over 119,000 game food producing plants. Among the latter were 30,000 Asiatic chestnut which were raised at the Commission's Nursery in Snyder County. Approximately 170,000 cuttings of various kinds were also placed in desirable locations.

Thousands of additional shrubs and vines were transplanted from privately owned lands, where they were plentiful, to the State Game Lands by W.P.A. and N.Y.A. workers. These workers also pruned thousands of apple trees to increase their fruiting capacity and released millions of game food producing shrubs and vines from suppression of competing growth.

LAND PURCHASE APPROVED

In keeping with its program to increase the Commonwealth's game land holdings in agricultural sections of the State, the Game Commission at its recent meeting approved the purchase of approximately 7,000 acres in Wayne County; 257 acres in Bucks County; 120 acres in Columbia County; 85 acres in Venango County; 422 acres in Blair County; and 761 acres in Erie County.

Several other tracts were conditionally approved for purchase but no purchase contracts have yet been entered into. The Commission has already secured title for 575,664 acres comprising 124 separate game management areas, distributed through 54 of the 67 counties of the State. In addition to this, and including the tracts recently approved for purchase, the Commission now has under contract for purchase approximately 35,000 acres.

FUR FARM INVENTORY

The U. S. Biological Survey has begun a nation-wide inquiry to assemble basic statistics on fur farms of the country.

First of its kind and extent in the United States, the project has been started by sending questionnnaires to individual fur farmers on Bureau mailing lists. Fur trade associations and other agencies are cooperating by making other lists available. The Biological Survey is also requesting State directors of extension work and county agricultural agents to furnish the Bureau names of fur farmers in the various counties.

Individual fur farmers who do not receive questionnaires are requested to write to the Biological Survey, U. S. Department of Agriculture, Washington, D. C., for a copy.

Data obtained through the questionnaires will be assembled and tabulated with the help of W.P.A. workers on a project established in the Biological Survey's Section of Fur Resources. The information compiled will be made available, but individual returns will be confidential.

"This inventory," says Bureau Chief Ira N. Gabrielson, "will provide basic information that has long been needed by the fur industry and individual fur farmers, as well as by governmental and research agencies. No one now knows even the number of fur farms in this country. Such statistics are available for Canada, Norway, and some other countries, but only estimates have been made for the United States. These vary from 15,000 to 30,000 for the number of fur farms and from $20,000,000 to $50,000,000 for the investments involved, and such widely varying estimates have little usefulness. Few statistical facts are thus available to furnish even a partial picture of the fur farming industry at a given time or, what is more important, to show the tendencies within the industry. With the importance of fur farming not generally appreciated and because of the lack of statistical background, support is frequently uncertain for financial and government support or for needed research programs."

Data requested on the questionnaires include market value of fur farms and animals, number of employees and wages paid during 1937, acres of muskrat marshes maintained, and numbers of muskrats taken on the marshes. Detailed statistics are also requested on silver foxes, cross foxes, red foxes, minks, martens, fishers, raccoons, chinchillas, and beavers. These include the highest price and the average price received for live animals and for pelts, the number of animals on January 1 and December 31, and the number of animals born, purchased, sold, died, and killed during the year. The number of pelts sold is also requested.

NOTES FROM THE FIELD

"A black snake was killed near Raver's Gap this week that had four young rabbits in it. I killed another which got tangled in the fence at the turkey enclosure. It measured 6 feet, 4 inches. The snake got half way through the fence, then brought its head back through a different hole and couldn't go either way."—Refuge Keeper Roland Turley, Bedford County.

"I have planted 5,000 grapevine cuttings with the help of NYA boys, 4,000 on State Game Lands No. 97 and 1,000 on Game Refuge No. 48."—Refuge Keeper Albert Bachman, Bedford County.

"On May 28, while patrolling near Refuge 51-B, I came upon a grouse with several young. Although the young grouse were very small, one of them managed to fly a distance of about three feet. I came upon another old grouse that was dusting itself on the road. It allowed me to approach with-

CURRENT TOPICS

in 8 feet before running into the brush."—Refuge Keeper George Sprankle. Fayette County.

"On May 23rd and 24th, with the help of NYA boys, I planted 3,200 grapevine cuttings on Game Lands 26. On the 25th we planted 800 on Game Lands No. 79, and on the 26th 700 were taken to Game Lands No. 108 to be planted next week. We also planted a number of blue plum and red sour cherries (seedlings)."—Refuge Keeper Bruce Catherman, Cambria County.

"A Mallard duck started to lay on March 26. She laid 12 eggs in 12 days. She started to set on April 7 and hatched 12 young on May 5. This is the first young hatched at the Refuge this season."—Refuge Keeper Burt L. Oudette. Pymatuning Waterfowl Refuge.

"While WPA workers were cutting slashings on Game Lands No. 87 the grouse would feed on the cuttings from the time the men quit for lunch until they resumed work after lunch—a period of one-half hour."—Refuge Keeper W. R. McClure, Clearfield County.

"Killed two blacksnakes on April 20 while planting seedlings on State Game Lands No. 111. One, about 4½ ft. long, showed signs of having fed recently. Upon examining the stomach I found ten grouse eggs. The snake had evidently cleaned out the entire nest."—Refuge Keeper Nicholas Ruha. Somerset County.

"Received a litter of four young squirrels, three black and one grey, from a lumberman who found them in a log that had been cut. They had been abandoned by their mother and were almost starved. I have been feeding them cow's milk with a medicine dropper and they are doing fine."—Refuge Keeper Howard Hoffman, Susquehanna Co.

"On April 18, 1938, while returning from Bullis Island by boat, I saw a duck hawk overtake a female scaup duck in full flight. The hawk hit the duck, held it, and carried it to a small island. I visited the island hoping to make a kill, but the hawk left the scaup, took off again and killed a coot which it left lying on the water. Very few duck hawks come through this area. This is the third one I have seen at Pymatuning in five years."—Refuge Keeper Burt Oudette, Pymatuning Waterfowl Refuge.

"On May 1, in the company of Dr. Herbert H. Beck, of Lancaster, and a group of interested naturalists I made a most interesting trip to Mt. Johnson Island on the Susquehanna. The purpose of the trip was to observe the nesting bald eagles located at the very top of this precipitous island. Mt. Johnson Island is unique inasmuch as it is the only eagle sanctuary in the world.

"Owned by the Philadelphia Electric Company, this 21-acre isle has been converted into a sanctuary by the National Audubon Society. Mr. Roy Smith, of Drumore, who acted as our skipper, has been appointed warden of the sanctuary while Dr. Beck is the custodian. A number of interesting still and motion pictures were made of the adults as well as the three eaglets in the nest.

"Clifford Marberger, of Denver, Pa.; Edward Hill, Fleetwood; Kenneth Dierolf, Reading; Joseph Cutler and Samuel Beck, son of Dr. Beck, were the other members of the party". — Gordon Krieble, Staff Photographer.

THIS MONTH'S COVER

The cover on this issue of the Game News which shows the beautiful Loyalsock Valley, with Loyalsock Game Farm in the foreground, was furnished through the courtesy of Sam Kuhnert, Commercial and Aerial Photographer of Harrisburg, Pa.

Mr. Kuhnert has spent a quarter of a century in professional photography and for the past eighteen years has been specializing in aerial work.

Adding to the thousands of aerial views he has taken, he recently accompanied the "Flying Fortress," of United States bombers on their maneuver flight over New York and Long Island, when he made a series of beautiful pictures.

"On April 3 Mr. Stewart Decker walked to the entrance of State Game Lands No. 42 and while standing near the gate on the road for a short time he saw 8 deer, 1 squirrel, 2 grouse, 6 quail, and heard a ringneck calling."—Refuge Keeper W. M. Matthews, Westmoreland County.

"On April 5 at the Summit Camp in Harry's Valley I watched one grouse feed upon aspen blossoms and on April 7 I watched four grouse on one aspen tree feeding upon the blossoms. I was surprised to note the great amount of these blossoms that each grouse ate. It is the first time, in fact, that I ever saw grouse feed upon them."—Refuge Keeper Harold E. Russell, Huntingdon Co.

"During the month of April while planting sumac seed in the release cuttings made on S. G. L. No. 30 I observed, in different cuttings, places where the deer had eaten the maple limbs back to ¼ in. in size. I feel that this is very good evidence as to the value of selective cuttings in our big game area."—Refuge Keeper Claude B. Kelsey, McKean County.

"Sometime ago while refilling feeding pens in the woods about six miles west of Reynoldsville, I routed a deer from among a bunch of laurel. Upon investigating the tracks of this deer only three could be found in the snow. Becoming interested in knowing what really was the reason for only three hoof prints, I began trailing the deer. After a several mile hike I came upon it standing in a small clearing among some pine trees.

"Upon watching the deer's actions and sneaking up as closely as I possibly could, I found the right front leg had been shot off and only a stub about six or eight inches from the shoulder remained.

"From my position I was able to see that the stub had healed over very well and in no way seemed to cause the animal any handicap. Upon discovering me it leaped into the thicket and was gone.

"Again upon looking at the tracks left in the snow I found it was able to jump as far as any other deer with four legs and could get through the thickets and over rocky places as easily.

"This deer has been seen by a number of sportsmen and without a doubt will roam the forest of this section for a long time regardless of its handicap."—LeRoy F. Anderson, Jefferson County.

One hundred forty WPA Counselors and Instructors, recently assembled at the S. B. Elliott State Forest Area, near Clearfield, for a week's training conference.

Wilbur M. Cramer, Superintendent of the Game Commission Training School, addressed the group on "Leadership," and later conducted a sight seeing and study trip of a nearby Game Refuge.

"On May 11, Mrs. Oudette reported an unusual large bird feeding along the Shellito cove. The bird was white and believed to be an Egret. I went into this area around 5 P. M. and saw the bird feeding along the shore line and it proved to be a great White Heron. This is the first Great White Heron ever to come into the Pymatuning area, as the nesting range of these birds does not extend north of North Carolina. Bald Eagles have also built their nest within the refuge. At this time seven of these birds are inhabiting the area."—Refuge Keeper Burt Oudette, Pymatuning Refuge.

"While patrolling around Turkey Propagating Area No. 9 on State Game Lands No. 111 on Sunday, June 5, I killed a weasel attempting to get into the enclosure. The weasel had shoved his head through the one inch mesh wire and was unable to go any farther or to extricate himself." — Refuge Keeper Nicholas Ruha, Somerset County.

"Mr. Crowfort, of Medix Run, told me that on Memorial Day he saw a female bear followed by four cubs cross the Sullivan Trail road about 3 miles from Medix."—Refuge Keeper Clyde W. Decker, Elk County.

CURRENT TOPICS

NOTES FROM THE FIELD

"Mr. Elwood Bales, of Huntingdon, R. D., who lives adjacent to Game Lands No. 112, informed me that he had killed a wild turkey during the past hunting season on that area. The turkey's crop contained wheat which had been planted for game food during the fall of 1936. It had eaten the heads of the wheat, beards and all.

"Investigated this patch last week and found that turkeys are still feeding on it. All other patches were cleaned up by the deer last summer and fall."—Refuge Keeper Ross Metz, Huntingdon County.

The State of Michigan enacted a law regulating public exhibition of wild animals. It contains many features similar to the one now in force in Pennsylvania. The Michigan law goes a step further, however, in that it requires the owner of any roadside menagerie to provide suitable parking space for automobiles adjacent to the highway, street or road.

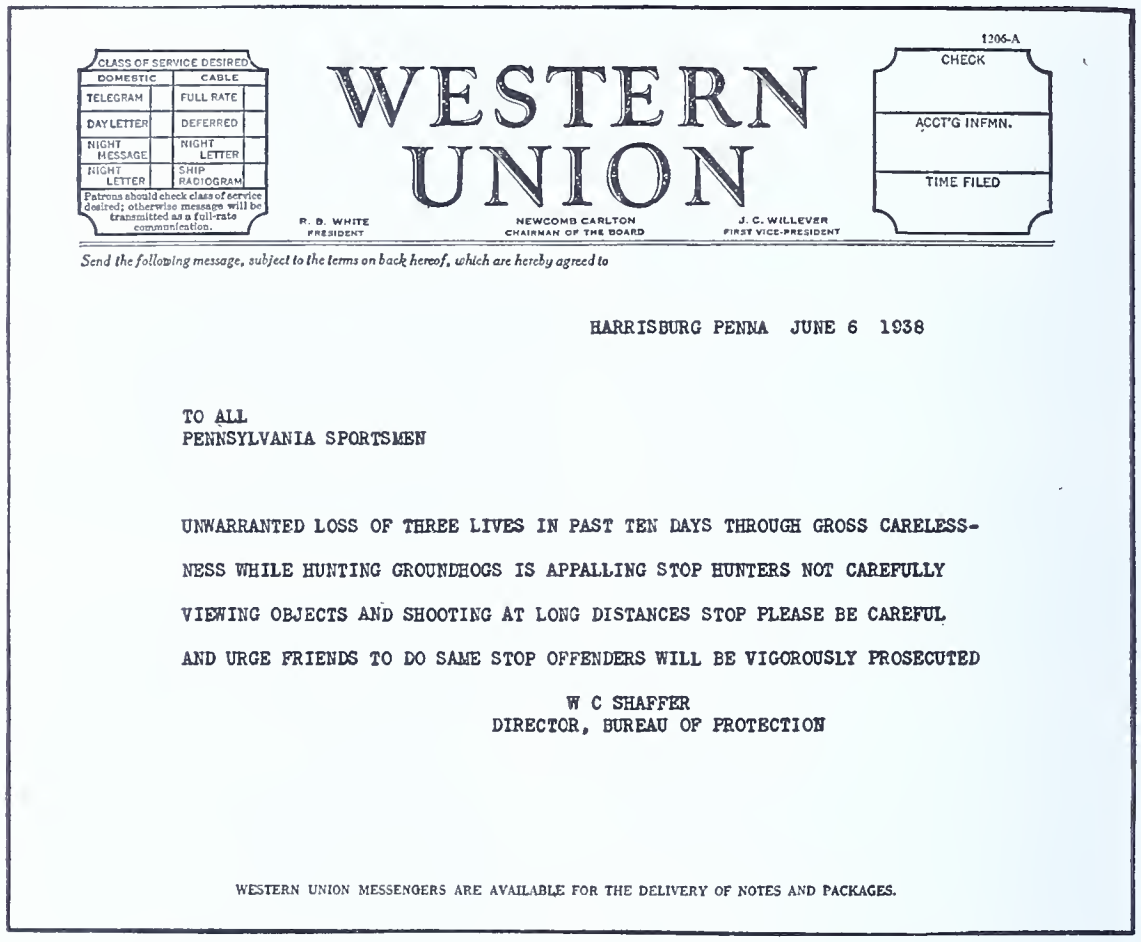
"On the afternoon of February 26, I went to seven release cuttings that were made on Game Lands No. 24 in the Vowinkle section and found the deer working all of them."—Refuge Keeper Edward Shaw, Clarion County.

Refuge Keeper Edwin Carpenter, Columbia County, reports the killing of a deer by a wildcat.

Nine men from New Jersey and Pennsylvania were arraigned in Federal court at Camden, N. J., recently, and fined amounts ranging from $15 to $25 for violations of the Migratory Bird Treaty Act. The various offenses were selling wild ducks, killing ducks out of season, over-limit shooting of wild ducks and rails, and driving wild ducks with a power boat.

South Dakota's Game and Fish Commission, which last year celebrated its tenth anniversary of bi-partisan administration, announces that it has been further divorced from partisan politics in the formal adoption of a resolution forbidding deputy game wardens and other department employes to actively participate in politics. Taken to prevent criticism and embarrassment for both the department and employes, this stand is indicative of the forthright operation of this commission which has established itself as one of the best game and fish organizations in the country.

Although urging its employes to exercise their rights of franchise at the polls, the commission warns that "all employes are expected to refrain from taking any active part in any partisan political campaigns," and must not attend political meetings in uniform, discuss political issues in public or display or distribute any article or literature designed to indicate their political preference.



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NIGHT MESSAGE		NIGHT LETTER	
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R. B. WHITE, PRESIDENT — NEWCOMB CARLTON, CHAIRMAN OF THE BOARD — J. C. WILLEVER, FIRST VICE-PRESIDENT

Send the following message, subject to the terms on back hereof, which are hereby agreed to

HARRISBURG PENNA JUNE 6 1938

TO ALL
PENNSYLVANIA SPORTSMEN

UNWARRANTED LOSS OF THREE LIVES IN PAST TEN DAYS THROUGH GROSS CARELESSNESS WHILE HUNTING GROUNDHOGS IS APPALLING STOP HUNTERS NOT CAREFULLY VIEWING OBJECTS AND SHOOTING AT LONG DISTANCES STOP PLEASE BE CAREFUL AND URGE FRIENDS TO DO SAME STOP OFFENDERS WILL BE VIGOROUSLY PROSECUTED

W C SHAFFER
DIRECTOR, BUREAU OF PROTECTION

WESTERN UNION MESSENGERS ARE AVAILABLE FOR THE DELIVERY OF NOTES AND PACKAGES.

A scouting crew attached to the gypsy moth control project, Carbon County, found what they believe to be a black duck's nest with ten eggs in it, in a woodland over one and one-half miles from the nearest water. They also found seven ruffed grouse nests, one containing fourteen eggs.

The Agricultural Appropriation Bill, which includes an item of $1,000,000 for the Pittman-Robertson Act, passed the Senate unanimously. The Agricultural Appropriation Bill, because of certain amendments in other parts of the Bill, but with no relationship to the Pittman-Robertson Act, now goes to joint conference.

The $1,000,000 will be used to inaugurate the administration of the Pittman-Robertson Act on July 1, 1938, which returns to the states proportional funds for wildlife restoration.

This project is the direct result of the activities of many agencies active in wildlife conservation and is the first time the Federal Government has assumed any share of its responsibilities toward state conservation problems.

The State of Ohio started its rabbit propagating areas two years ago, and now has 250 of these areas with an average size of 150 acres. No area contains less than 75 acres and a few have up to 400 acres. Each area is planted to special food for rabbits, and cover conditions are being improved thereon as rapidly as possible.

Ohio last year bought 71,000 rabbits from the Middle West, but expects to discontinue importing rabbits after the present areas become fully operative.

Six new areas in five States have added more than 86,000 acres to the Federal system of bird refuges within the last five months, according to a recent announcement of the U. S. Biological Survey.

An Alaskan fur trader, Lou Anderton, of Chisana, who operated an extensive "fence" for trappers smuggling furs from Canada into Alaska has been assessed fines and forfeitures aggregating $1,200 by the U. S. Commissioner at Cordova, Alaska. Anderton, previous game violator, pleaded guilty to violations of the Alaskan game laws and the Lacey Act covering smuggling.

The installation of food patches in southern New Jersey has overcome the severe food deficiency common to that area and has proven that bobwhite quail will thrive and increase on state-owned lands upon which proper food is maintained.

During May field officers brought 185 prosecutions of the Game Law and collected $1,507.30 in penalties. Fines collected for the eleven-month period from June 1, 1937 to May 1, 1938, amounted to $61,472.75. Fines for the year ending May 31 will exceed $64,000, the highest since 1931. Penalties collected during previous years are as follows: 1930, $96,251; 1931, $58,483; 1932, $44,434; 1933, $38,938; 1934, $40,756; 1935, $60,209, and 1936, $59,365.

Cooperative Farm-Game Project Agreements were executed in April for a total of 986 acres located in two counties.

CURRENT TOPICS

THE VALUE OF BANDING BIRDS

WITH the microbe hunters and hunger fighters of the twentieth century may well be ranked a Kingsville naturalist whose thatch of silver hair is as characteristic as his love for the countless birds who seek haven in his sanctuary. Jack Miner labors in a different field, but his work is no less for the benefit of humanity and enrichment of its store of scientific knowledge.

While the foundation of the Jack Miner Bird Sanctuary dates back to 1904, the naturalist did not tag his first bird until 1909. In August of that year he banded an ill-fated duck which fell before Dr. E. W. Bray's shotgun in Anderson, South Carolina, in January, 1910. The tracing of the band about its leg to the Kingsville sanctuary constitutes the first such complete record of birds' migratory habits. Jack Miner was a pioneer, if not the pioneer bird bander on the continent.

But the work had only begun, and from 1911 to 1915 many hundred more ducks were tagged and their flight lanes traced with uncanny accuracy. In 1915 Jack Miner began to tag geese, and since then the scope of the project has widened so that in recent years many thousands of robins, mourning doves and other small birds have flown from the sanctuary with metal bands about their legs.

From a scientific standpoint, the data obtained in tracing migratory flights of these birds has been invaluable. Swift adoption of the study in universities followed, and now bird migration forms a major feature of biology courses. Federal, state and provincial governments of the United States and Canada have found the Miner records invaluable in enacting legislation relating to game birds.

About 1920 saw the start of an extensive bird-banding campaign by the United States government, which secured several hundred observers to co-operate with the Biological Survey at Washington, D. C. The hundreds of banding stations resulted in tens of thousands of birds being tagged, of practically every variety extant in North America.

So valuable do accredited institutions of higher education regard the work that in the latest university texts in biology is incorporated a chapter on Jack Miner's research work and the data he has obtained in Kingsville on bird migration. The naturalist receives excellent support from his own townspeople in his ventures, and the value of the sanctuary as a tourist attraction is realized.

MOOSE KILLERS ARRESTED

Two Alaska trappers killing moose out of season for dog food have been sentenced to six months in jail following arrests made possible by the use of an airplane.

The trappers, D. E. Block and R. W. Duncan, were arrested by agents of the Alaska Game Commission and sentenced by the United States Commissioner at McGrath. They admitted in court that they fed eighteen dogs exclusively on moose meat. Moose parts, scattered along the trails where the dogs were fed, helped convict the men.

Game Agent Sam O. White, who is a licensed pilot, flew to the interior with Agent Harman J. Benson. The trapline they sought was on the Stony, Swift, and Holtina Rivers, tributaries of the Kuskokwin, which empties into the Bering Sea. In this remote section of southwestern Alaska the agents spent six days with their plane scouting the hundred-mile trapline.

The agents work under the supervision of the Biological Survey, through the Alaska Game Commission.

David Mohler, R. D. No. 5, Lancaster, who has in the past given considerable assistance in providing game food planting material for State Game Lands, has recently donated several hundred privet plants, along with a number of hemlock seedings, for planting on the Game Lands to provide food and cover.

He has also donated again this spring a quantity of plants for use on the Game Lands in Lancaster County. He is arranging to plant between the rows of shrubs on Game Lands No. 52 sunflower and broom corn seeds at his own expense. Mr. Mohler also, during the past winter, took care of several bushels of black walnut seeds, which were turned over to our local officers for planting on Game Lands No. 136 this spring.

NEW BOOKS

Logbook of Minnesota Bird Life, 1917-1937, by Dr. Thomas S. Roberts. University of Minnesota Press, $3.50.

This is a limited edition of 500 copies which will be of great interest to Minnesota bird lovers.

The book is illustrated by twenty-one line drawings and a frontispiece dry point by Walter J. Breckenridge, curator of the Minnesota Museum of Natural History.

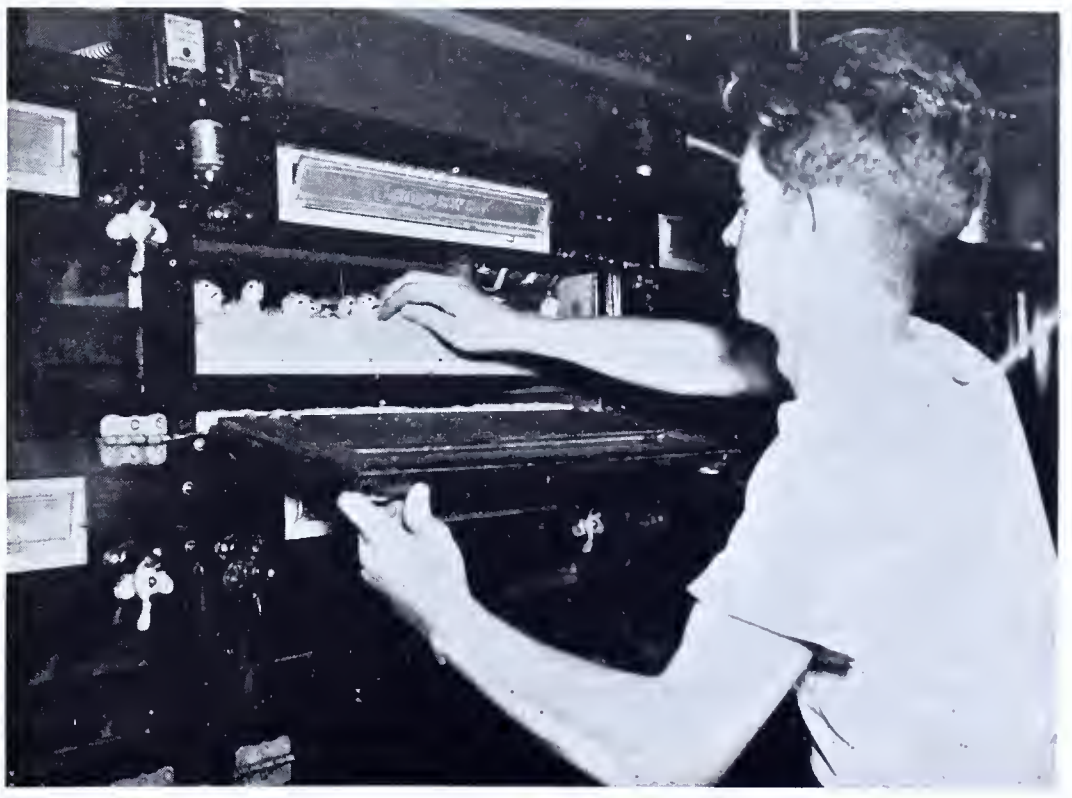
The first book on sport was written by a nun, who, according to the title page was Dame Juliana Berners, Prioress of Sopwell Abbey, near the Citie of Saint Aban. Dame Juliana was a holy adept of archery, falconry, wolf and bear baiting, quintain, or post-telling, and a lot of other forgotten recreations.

The volume, now a precious treasure of the British Museum, and valued at $7,500, was brought to light during the 200th Anniversary of the introduction of the iron printing press in England. Dame Juliana's book was printed on a wooden press.

There are 15 million dogs in the United States, according to an estimate, and over 2 million are pedigreed animals.

Contestants in the 1938 annual Essay Contest of the National Association of Audubon Societies hailed from 24 states and more such essays were received at the Association's office this year than in any previous contest.

John H. Baker, Executive Director of the Association said there was an unusually wide distribution of prize winners among both teachers and children. The subject was "Why Should We Have Bird Sanctuaries?".



Baby ringnecks in incubator at Jordan State Game Farm.

CURRENT TOPICS

SUMMARY STATEMENT OF BOUNTY ALLOWED ON NOXIOUS ANIMALS FOR THE MONTH OF MARCH, 1938

Counties	Great-Horned Owls	Gray Foxes	Goshawks	Weasels	Amount
Adams	0	14	0	40	$ 76.00
Allegheny	0	4	0	65	48.00
Armstrong *	3	20	0	76	122.00
Beaver	1	15	0	20	72.00
Bedford **	6	35	0	43	172.50
Berks	0	21	0	76	122.00
Blair	0	15	0	56	88.00
Bradford	8	25	1	116	176.00
Bucks	1	32	0	97	178.50
Butler	1	16	0	117	124.50
Cambria *a	2	49	0	127	262.50
Cameron	0	30	0	3	121.50
Carbon	0	24	0	44	118.00
Centre	0	75	0	147	373.50
Chester	0	0	0	64	32.00
Clarion	1	8	0	112	90.00
Clearfield	2	48	0	243	317.50
Clinton	0	24	0	13	102.50
Columbia	0	8	0	98	81.00
Crawford *b	11	1	0	276	162.00
Cumberland	1	8	0	26	47.00
Dauphin	0	16	0	25	76.50
Delaware	0	0	0	3	1.50
Elk	1	41	3	86	215.00
Erie	5	1	0	154	91.00
Fayette	0	62	0	81	288.50
Forest	1	1	0	63	37.50
Franklin	0	19	0	22	87.00
Fulton	1	14	0	3	59.50
Greene	4	6	0	5	34.50
Huntingdon	0	58	0	59	261.50
Indiana *c	4	25	0	156	183.00
Jefferson	0	9	0	167	119.50
Juniata	0	11	0	21	54.50
Lackawanna	1	14	0	12	64.00
Lancaster	1	25	0	49	126.50
Lawrence	0	3	0	51	37.50
Lebanon	0	0	0	6	3.00
Lehigh	0	2	0	47	31.50
Luzerne	0	35	0	143	211.50
Lycoming	1	49	0	56	226.00
McKean	0	13	0	48	76.00
Mercer	1	8	0	159	113.50
Mifflin	1	23	0	24	106.00
Monroe	2	10	2	50	73.00
Montgomery	0	9	0	49	60.50
Montour	0	0	0	31	15.50
Northampton	0	4	0	29	30.50
Northumberland	0	13	0	60	82.00
Perry	0	19	0	27	89.50
Philadelphia	0	0	0	8	4.00
Pike *d	2	35	1	14	151.00
Potter	0	6	0	10	29.00
Schuylkill	0	60	0	133	306.50
Snyder	0	8	0	11	37.50
Somerset	2	61	0	133	314.50
Sullivan	2	3	0	47	39.50
Susquehanna *e	20	31	0	36	173.00
Tioga	0	19	1	42	99.00
Union	0	5	0	11	25.50
Venango * f	8	12	0	166	143.00
Warren	2	3	0	112	72.00
Washington	0	6	0	39	43.50
Wayne	1	36	0	29	160.50
Westmoreland	0	81	0	137	392.50
Wyoming	0	18	0	35	89.50
York	0	14	0	91	101.50
Totals *g	97	1,360	8	4,599	$7,925.50

* 1 Adult— 2 Fledglings.
** 5 Adult— 1 Fledglings.
*a 1 Adult— 1 Fledglings.
*g 73 Adult—24 Fledglings.
*b 9 Adults—2 Fledglings.
*c 1 Adults—3 Fledglings.
*d —2 Fledglings.
*e 11 Adults—9 Fledglings.
*f 4 Adults—4 Fledglings.
Number of Claims—2,447.

SUMMARY STATEMENT OF BOUNTY ALLOWED ON NOXIOUS ANIMALS FOR THE MONTH OF APRIL, 1938

Counties	Great-Horned Owls	Gray Foxes	Gosbawks	Weasels	Amount
Adams	0	3	0	3	$ 13.50
Allegheny	0	7	0	13	34.50
Armstrong	0	3	0	9	20.50
Beaver	0	1	0	0	4.00
Bedford	1	5	0	0	22.00
Berks	0	4	0	5	18.50
Blair	1	3	0	5	16.50
Bradford a	9	5	0	43	55.50
Bucks	0	14	0	20	66.00
Butler	0	1	0	20	14.00
Cambria	1	12	0	21	60.50
Cameron	0	1	0	0	4.00
Carbon	0	2	0	2	9.00
Centre	0	8	0	5	34.50
Chester	0	0	0	1	.50
Clarion	3	1	0	25	22.50
Clearfield	0	13	0	24	64.00
Clinton	0	12	0	2	49.00
Columbia	0	1	0	16	12.00
Crawford b	17	0	0	23	35.50
Cumberland	0	1	0	3	5.50
Dauphin	0	2	0	5	10.50
Delaware	0	0	0	2	1.00
Elk	0	6	1	11	31.50
Erie	16	0	0	17	40.50
Fayette	0	9	0	9	40.50
Forest	0	0	0	3	1.50
Franklin	0	1	0	8	8.00
Fulton	2	1	0	1	8.50
Greene c	11	0	0	0	17.00
Huntingdon	0	12	0	8	52.00
Indiana	0	3	0	19	21.50
Jefferson	4	1	0	14	19.00
Juniata	0	4	0	5	18.50
Lackawanna	0	2	0	9	12.50
Lancaster	0	2	0	2	9.00
Lawrence	3	2	0	3	15.50
Lebanon	0	1	0	2	5.00
Lehigh	0	1	0	0	4.00
Luzerne d	4	6	1	26	45.00
Lycoming	0	2	0	18	17.00
McKean	0	1	0	31	19.50
Mercer e	6	1	0	20	25.00
Mifflin	1	4	0	3	19.50
Monroe	0	2	0	1	8.50
Montgomery	0	1	0	3	5.50
Montour	0	0	0	2	1.00
Northampton	0	9	0	2	37.00
Northumberland	0	3	0	30	27.00
Perry	0	2	0	7	11.50
Philadelphia	0	0	0	0	0.00
Pike	0	6	0	0	24.00
Potter f	1	3	0	2	14.00
Schuylkill	0	9	0	23	47.50
Snyder	0	2	0	0	8.00
Samerset	0	9	0	13	42.50
Sullivan g	2	2	0	1	10.50
Susquehanna h	12	6	0	1	41.50
Tioga i	2	3	1	0	16.00
Union	0	0	0	0	0.00
Venango	0	2	0	2	9.00
Warren	5	0	4	22	29.00
Washington	0	2	0	3	9.50
Wayne j	5	8	0	4	42.00
Westmoreland	0	13	0	22	63.00
Wyoming k	2	5	0	5	24.50
York l	2	5	0	19	31.50
Totals m	112	250	7	618	$1,507.00

a4 Fledglings— 5 Adults.
b10 Fledglings— 7 Adults.
c5 Fledglings— 6 Adults.
d2 Fledglings— 2 Adults.
e1 Fledglings— 5 Adults.
f1 Fledgling —No Adults.
g2 Fledglings—No Adults.
b7 Fledglings— 5 Adults.
i2 Fledglings—No Adults.
j2 Fledglings— 3 Adults.
k2 Fledglings—No Adults.
l2 Fledglings—No Adults.
m40 Fledglings—72 Adults.
Number of Claims—486.

CHOICE

In Constantinople, just after the Young Turks had turned out the Sultan, I visited several of his astounding Oriental palaces. In each one of his personal rooms there were several stuffed California quail. I wondered why this bird with its cocky little head plume had attracted him.

I have watched quail carefully ever since. They survive in the midst of traps, cats, dogs, hawks, owls, guns, and human beings, because they know how to manage their own affairs. By some process they choose a leader, or he appoints himself, to be on guard and give warning of enemies. These leaders never go to sleep, and never sell out to the hawks. Each quail looks out for his own affairs and joins in on flock responsibilities. They understand self-management, and make a success of a life full of perils.—From a Guest Editorial for American Magazine by Dr. Ray Lyman Wilbur, President of Stanford University.

INSECT DEBUNKED

That 800-mile-an-hour insect, the deer botfly, has been completely debunked by science. Twenty-five miles an hour would be more like a reasonable speed for the creature, declares Nobelist Irving Lanbmuir, associate director of the General Electric research laboratories. (Science; Mar. 11)

Dr. Langmuir went at the problem of the fly's alleged high velocity—almost twice the speed of the fastest airplane—in a number of ways. Both by theoretical calculations and laboratory experiments he proved that it just can't happen.

The fly's speed has been given as 818 miles an hour in widely circulated reports. To do that, Dr. Langmuir calculated, it would have to develop five-tenths of a horsepower—rather formidable job for an insect. In doing so, it would have to consume about one and one-half times its own weight in food every second it is in flight—and it carries no lunchbox.

But supposing it could develop such power and attain that speed. Against its practically flat head there would develop a pressure of about eight pounds per square inch, probably enough to crush it. If it struck human flesh at the velocity of 818 miles an hour (400 yards per second) it would exert a force of 310 pounds, or about four tons per square inch. That is, it would be a fairly efficient bullet, and would cause a serious wound; nothing of the kind has ever been reported.

In his laboratory exepriments, Dr. Langmuir suspended a lump of solder of approximately the dimensions of the fly on a silk thread and swung it at various velocities in a brightly-lighted, white ceilinged room.

At 13 miles an hour it could be seen only as a blur; at 26 miles it was barely visible; at 43 miles it appeared only as a faint line and its direction could not be told; at 64 miles an hour it became completely invisible. Laboratory light intensity measurements bore out the experimental results: at 64 or more miles an hour an object the size of the deer botfly becomes invisible.

Dr. Langmuir concludes with the estimate that a speed of 25 miles an hour is a reasonable one for the insect, while 800 miles an hour is "utterly impossible."—Science News Letter.

A LETTER FROM A READER

Dear Sir:

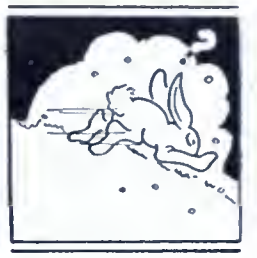
In my April issue of GAME NEWS I noticed a poem by an old timer. Here is part of another old one as near as I can remember.

"Never, never let your gun,
Pointed be, at any one.
All the pheasants ever bred
Would not pay for one man dead."
—W. W. Barnes, Susquehanna, Pa.

Two hundred new "duck ports" now dot the flyways of migratory waterfowl in 44 states. These little lakes and ponds furnish excellent resting and feeding places for ducks and geese.



SPORTSMEN'S QUERIES



By CHAS. F. STAMBAUGH

Q. Do I have the right to use an automatic shotgun if it is plugged so it would only shoot twice?

F.N.S.—Millport, Pa.

A. No. You may not use an automatic shotgun for hunting any wild birds or wild animals in Pennsylvania, even though it is plugged to hold only two shells. The Game Law strictly forbids the use of any automatic firearm and makes no provision for the use of such guns when plugged to reduce the capacity.

* * *

Q. Can I obtain a permit to keep a raccoon for dog training purposes?

J.F.W.—Bellefonte, Pa.

A. Yes, by obtaining a possession permit from the Game Commission. The law requires that such permits be applied for within five days after the close of the raccoon season. Permits for raccoons obtained legally in closed season may be obtained at any time. No charge for the permit. It is unlawful to train dogs on pet raccoons, or any others, between April 1st and August 19th.

* * *

Q. In the brown supplement of a recent issue of a Philadelphia Sunday newspaper, reference is made to the "drumming" sound for which a ringneck pheasant is noted. Does the ringneck "drum"?

W.D.—Dauphin, Pa.

A. No. The only game bird in Pennsylvania that drums is the ruffed grouse. The male grouse drums during the mating season in the Spring. The sound is produced by rapid beating of the wings. The male ringneck pheasant produces several varieties of vocal calls, but never drums.

* * *

Q. I have a young cousin (age 10) who is crazy about hunting. He always wants to go crow hunting with me. Would it be lawful for me to let him use a .22 rifle if he went with me?

W.J.Jr.—Sugar Notch, Pa.

A. Sorry, but the law forbids any person under the age of 12 years to receive a hunting license; and inasmuch as that license is necessary to shoot any wild birds or animals in Pennsylvania, except on one's own home grounds, we do not see how your ten-year-old cousin could shoot crows with a .22 rifle unless he resides on a farm or other portion of land where hunting is possible. He may use the rifle to shoot crows on his home grounds only. Our advice is that you wait until he is 12 years old before allowing him to shoot at lawful live targets.

* * *

Q. I would like to go out shooting snakes. Must I carry my hunting license on my back, or is it all right if I just put it in my pocket? Is it against the law to shoot in the water? J.S.B.—Ephrata, Pa.

A. You will not require your hunter's license to shoot snakes, as that license is necessary only to hunt wild birds or wild animals—under the Game Law the snake is neither bird nor animal. It is advisable to be in possession of a fishing license to shoot water snakes. You may shoot into the water at snakes, but not at fish.

* * *

Q. Is it lawful to use a high-power rifle to shoot crows if they are on a tree or along a hillside?

J.S.C.—New Salem, Pa.

A. There is nothing in the Game Law to prohibit the use of a high-powered rifle for shooting crows, if the gun does not reload automatically. However, from a safety standpoint, we do not recommend the use of high-powered firearms for shooting the smaller birds and animals, as there is always the possibility of injuring human beings or damaging property when a powerful weapon of that type is used.

* * *

Q. Can a 22-cal. Hornet Rifle be used to hunt groundhogs, crows, hawks and red squirrels during the closed season on small game? Can it be used in the small game and deer seasons?

G. & H.—Conemaugh, Pa.

A. Yes, the .22 Hornet may be used for any hunting in Pennsylvania, as it is not an automatic firearm. We see no objection to its use for hunting groundhogs in season, or crows, unprotected hawks and other predators at any time. There is nothing in the law to forbid its use on either large or small game in season.

* * *

Q. Is it lawful to carry a hunting knife in a sheath any time of the year?

F.McL.—Newville, Pa.

A. Yes, providing you never indicate by your actions an intent to carry the knife for the purpose of inflicting injury upon another person, as this may be "prima facie" evidence of a criminal offense. The common use of a knife for hunting purposes is permissible.

* * *

Q. Is a permit required to possess a wild groundhog? Would it be legal to catch a kitten skunk now (May, 1938) to keep for a pet? If so, is a permit necessary?

C.M.W.—Houston, Pa.

* * *

A. As the groundhog is now classed as a game animal, the possession of same in captivity is unlawful, unless it was captured prior to June 3, 1937, the date on which the new Game Law became effective. If you capture a young skunk within the limits of a city or borough, you may keep it, as protection has been removed on all skunks found within city and borough limits. This law, however, was enacted in order for residents of built-up areas to relieve themselves of the skunk nuisance, and it would not be advisable to keep a skunk alive in a borough if it should become annoying to persons residing close by.

* * *

Q. Please advise if there has been any change in the hunting license fee for the coming season.

E.C.G.—Roaring Spring, Pa.

* * *

A. There has been no change in the hunting license fee. The cost of a 1938 resident hunting license will be $2.00 as in previous years.

* * *

Q. May I keep a pet groundhog for our little boy? If not, can I get a permit for one, as you can for a raccoon?

J.E.M.—Sycamore, Pa.

A. Sorry, but the present Game Law fails to make any provision for the possession of a groundhog alive, if caught now. They are classed as game, and the only game animal that may be captured alive and retained is the raccoon, and he must be taken during the open season.

* * *

Q. While travelling north on Route 611 on April 11th, a pheasant flew against my left front headlight, breaking the lens and the bracket, and leaving the light hanging on one light wire. Had this damage repaired at a cost of $4.95. Please take care of the enclosed invoice.

H.J.E.—Easton, Pa.

A. Sorry, but there is no law in Pennsylvania today under which it is possible to reimburse you. The Commission must reject a number of similar claims every year because of the absence of legislation whereby they could be paid. The only damage by game birds or animals now payable is that committed by bears to livestock, poultry or bees.

* * *

Q. Is it against the law to carry a .22 rifle on trips from the city to the mountains? Could we shoot at or kill foxes, wild cats, snakes or crows on Sunday?

R.C.—Philadelphia.

A. You may transport a .22 rifle in a vehicle for hunting purposes, without a special permit other than a hunter's license, if the barrel is fifteen or more inches in length. You must not hunt or kill any wild birds or wild animals, including the predators, without possessing a proper hunter's license. There is nothing in the Game Law to prohibit Sunday hunting of unprotected birds and animals, but it may be a violation of the Blue Laws to discharge firearms anywhere in the State on that day.

WITH THE CLUBS

CLUB PLANTS CHESTNUT TREES



Members of the Huntingdon Co. Game, Fish and Forestry Association planting Asiatic Chestnut seeds in the Greenwood Nursery.

CLUB PLANTS CHESTNUT SEED

The Huntingdon County Game, Fish and Forestry Association through its Forestry Committee, raised money during the past year and purchased seed of Asiatic Chestnut. These seeds were stratified over the winter and recently placed by the club in the Greenwood Nursery. There were 15 members of the Association present at the planting of the 6,480 nuts. The seedlings which will be produced by these nuts will be lifted next spring and planted in desirable sections of the county. The Asiatic Chestnut is a most promising approach in attempting to replace this type of game food supply. These chestnut species have lived and developed with the blight fungus for thousands of years and have become highly resistant. The Oriental Chestnut is inferior to our own in timber form, probably in hardiness and in sweetness of the nuts.

Within the last ten years the United States Department of Agriculture has brought large quantities of chestnut seed into this country from eastern Asia, mainly selected from strains or varieties thought to have superior qualities of disease resistance, as well as the large size and quality of the nuts.

In the last seven years more than 200,000 young trees grown by the Department from imported seeds have been sent out for planting in connection with various Federal, State, and private projects. Some of these trees are now growing well and give much promise, although plantings on poor sites, such as on worn-out, badly eroded farm lands have resulted in partial or complete failures. On favorable sites plantings are still experimental.

The Asiatic chestnut trees, to some extent, are lacking in hardiness and erectness, as compared with the American chestnut tree. In order to combine the resistance to disease, large size of nut, and certain other desirable characteristics of the Asiatic species with the hardiness and habit of growth of the American, hybrid forms are now being produced by Department breeders. Since 1925 more than 3,000 hybrid trees have been grown. The earliest have already begun to bear and have been used in making second- and third-generation crosses. The species used include various strains and varieties of American chestnut, both native tree and shrub chinquapins, the Chinese chestnut, Chinese timber and dwarf chinquapins, and various wild and cultivated forms of Japanese chestnut.

The Pennsylvania Game Commission, for the past couple years, has also been purchasing nuts of Asiatic Chestnut trees from which seedlings are raised for planting on State Game Lands.

The Huntingdon County Sportsmen's Organization is to be congratulated upon their initiative and activity in promoting such an extensive natural game food producing program locally.

The Blue Ridge Gun Club, of Swoyersville, recently erected a cabin in Sullivan County for use of its members. It will also be used as headquarters for its winter food and cover programs.

At a recent meeting of sportsmen the question was asked: "Were you satisfied with the seasons and bag limits last year?" We quote a portion of the Secretary's minutes concerning the answer: "There were so damned many different suggestions that your secretary gave up trying to keep track of them. One member hit the proverbial nail on the head when he said that we didn't know what we wanted. The many, many diversified opinions among the 175 persons present proved unquestionably what a tough job the Game Commission has trying to satisfy 600,000 hunters."

The Donora Sportsmen's Association has leased a 485 acre tract of land between Donora and North Charleroi as a combination hunting ground and game refuge for the exclusive use of its members.

Only persons with membership cards may use the lands for hunting or for training dogs. A section will be fenced off for a refuge and pheasants and rabbits will be stocked. The association voted to purchase 100 ringneck pheasants. Rabbits will be bought later.

A well attended sportsmen's rally, sponsored by the Luzerne County Game and Fish Conservation Association, of Freeland, was held recently in the Freeland high school auditorium.

The principal speakers at the rally were Samuel J. Truscott, of Dalton, member of the State Fish Commission, and John H. Price, of Scranton, member of the State Game Commission.

Commissioner Price discussed restoration of wildlife and dwelt upon the weasel problem which has been a bone of contention during the past few years.

He also pointed out the fact that the Game Commission is paying out $75,000 annually in bounties on weasels and called upon the sportsmen to decide whether the damage done by the weasel is commensurate with this vast expenditure.

"Uncle Sam," owned by Earl Shillinger, Youngstown, Ohio, won the grand final of the Berks County coon dog field trials held over the Cedar Top Rod and Gun Club grounds by taking both tree and line awards. "Little Jack," owned by Raymond Boyce, New Brunswick, N. J., copped second tree in the final event.

Tree in the U. K. C. Puppy Derby was won by "Beaver Creek Bill," owned by Elmer Bortz, Fleetwood, Pa., while "King Edward," owned by G. W. Clark, Pitman, Pa., took line in the same run.

The Bridgeville Sportsmen's organization began in 1932 with a membership of 32. Today over 350 active members are carried on its rolls. Among the many activities carried on by this club are the sealing of abandoned mines, of which there are many in that district, leasing several large bodies of fresh water and stocking them with fish, purchasing and establishing a 125 acre small game refuge, and establishing a farm game refuge program on nearby farmlands.

Periodic events such as picnics, fish dinners, shooting matches, crow hunts and field trials are also held by the club to stimulate interest in these worthwhile recreations.

WITH THE CLUBS

THE ARCHERS' COLUMN

By CLAYTON R. SHANK

1. What wood is used in making bows?

A. There are many kinds of woods suitable for making a bow. Some of them are Ash, Osage Orange, Hickory, Cedar, Yew, Bethabaro, Snakewood, Lemonwood, Steel, etc. Lemonwood and Yew are popular with the Archers shooting in Tournaments. Osage Orange is generally accepted as an excellent material for making hunting bows. Steel is good if properly tempered.

2. Are bows made from one piece?

A. Sometimes. If you are fortunate enough to procure a good piece of wood long enough to make a bow so much the better. This is known as a self bow.

3. If bows are made from billets how are they fastened together?

A. They can be spliced. The splice may be either a single fish tail, when one end is like the letter V, or a double fish when one end is like the letter W. Sometimes a backing is placed on the flat side of the bow to provide additional strength. This might be a thin layer of rawhide, fibre, Hickory or any other tough material.

4. What length should you make a bow?

A. This depends on the length of arrow you plan to shoot. Arrows of 27 inch or longer should be shot with a 6 foot bow, 24 inch or longer a 5 foot 6 inch bow.

5. What are the parts of a bow?

A. A bow consists of an upper and lower limb, with a grip or handle in the middle. Grooves are cut in both ends to hold the string. Horns are sometimes used for this purpose.

6. If I were to buy a bow how heavy should it be?

A. This depends on you, but I would suggest that you select one that is not too heavy for learning. After you are more efficient with the weapon you can increase the weight. Usually a 30 or 35 lb. bow makes a good start for men, women from 20 to 25 lbs.

7. What material is used to make a string?

A. Strings are made from hemp and Irish Flax. Irish Flax is the more desirable.

8. Is it necessary to protect the forearm when shooting?

A. Yes at all times. If you wish to try your skill buy a piece of leather and make it about 8 inches long and wide enough to fit around the arm. A shoe maker will make provision for a tie on string.

9. Are the fingers protected?

A. Yes. There are several types of finger protectors. A piece of leather fitted over the three fingers in the shape of a tab is sometimes used. Sometimes a skeleton glove fitted on three fingers is used. Cordovan leather is the best kind of leather to use. If you have nothing else an old glove will serve the purpose.

10. Are there any good books published on Archery? On the art of making bows are arrows?

A. A list of books on these questions can be obtained by writing the Secretary of the Pennsylvania State Archery Association, 315 S. Lime St., Lancaster, Pa.

(Continued on page 28)



"Stay with him, Paw—Grampaw's gone to town fer a huntin' license!"

Reamer Keller

NEW CLUBS

West Ward Rod and Gun Club, of Coaldale, Schuylkill County. This brings the total of clubs in Coaldale to three, which have joined in leasing a propagation area from the Lehigh Navigation Company.

The Horton Township Sportsmen's Club, of Brockport, Pa. Ronald Morrow, Brockport, Secretary.

Newportville Rod and Gun Club. Howard Mellor, Bristol, Pa., Secretary.

AN APPEAL

When the present Season's ended
And the snow lies thick and deep,
And we gather round the fire
Writing memories to keep;
Let us not forget the wildlife
Over yonder in the weed,
Be up early in the morning
And scatter out some feed;
Let us help with conservation
In the interests of our boys,
For they also want some hunting
When they've put away their toys;
Let us make of this Great Country
What the Indian always had,
Eliminate the "Game Hog"
Then it won't be quite so bad.

—Chas. A. Hanes,
Ambler, Pa.

The Huntingdon County Game, Fish and Forestry Association is sponsoring two contests to reduce the number of watersnakes and crows in that section in the fish and game covers of the county.

The students and faculty of the Old Forge Junior High School have just completed their third annual exhibit on good citizenship. A portion of the program was dedicated to conservation and featured lectures, movies and demonstrations by the students on good forest and game conservation.

NOTE: Programs of this sort are of vital importance to the future conservation of our game, forests and streams. We should like to hear from more schools that have instituted definite conservation programs.

Dr. S. G. Naylor was elected President of the York and Adams County Game and Fish Association at its yearly booster meeting held recently in the fire house at Pennville. Interest was shown in the youth movement, which is gaining in popularity among sportsmen's clubs. The game committee reported the release of 293 rabbits and 350 ringneck pheasants.

The Quittapahilla Rod & Gun Club, of Annville, point with pride to a membership list of 125 persons acquired in less than two years. Projects for the next year will include the building of holding and rearing pens for ringnecks, the establishment of a farmer's cooperative hunting area and game refuge, a rifle range and a skeet field.

SCATTER LOADS



"Pete" is only a toy poodle—a housedog owned by Mrs. Joseph E. Shreve of Viewmont, but he's also a retriever. In fact he displays all the characteristics of a thoroughbred hunting dog.

"Pete" had no individual training. She—for the dog is a female—seemed to have the hunting instinct inborn. In the fields about the Shreve property the poodle played as a puppy and it was soon noticed she was picking up trails. She has been seen to stand quail as cleverly as any bird dog.

In the role played in the photograph the poodle retrieved the dead bird at command of Mr. Shreve without hesitation and handled it as carefully in its teeth as any dog trained to do so. Naturally Mr. Shreve, among Johnstown's outstanding hunters, is proud of the "housedog" while Mrs. Shreve just as naturally insists the poodle's mission in life is to keep her company and watch the house, as she does instinctively.

NATIONAL CROW CHAMPIONSHIP

The first National Crow Championship Shoot ever held took place at Massillon, Ohio, on June 5, 1937, and the title and trophy was won by Dr. Harold D. Essig of Toledo, Ohio. The trophy is retained by the winner for one year unless it is won three times by the same person, in which case it becomes the property of the fortunate hunter.

This year the national shoot takes place at Circleville, Ohio, on June 25, any man or woman residing in United States or Canada is eligible. Non-residents of the state will not be required to have a hunting license to compete.

Judging will be done under the following point system: Ten points for knowledge of the crow call; fifteen points for receiving an answer to a call; fifty points for the first crow grounded; twenty-five points for each additional crow decoyed into shooting range. Each additional crow killed counts 25 points extra. A score keeper accompanies each contestant.

A few of the rules are: Owl, hawk and crow decoys may be used along with the crow call; any size gun up to ten gauge; and each hunter will be given one hour to make his kills.

A ringneck hen disrupted downtown traffic in Harrisburg recently.

Pedestrians were attracted by the frantic scurrying of the bird up and down one of the main streets. Motorists stopped their cars with shrieking brakes and at each new fright the ringneck would dart in another direction.

Finally it tried to fly but crashed into the side of the Zion Lutheran Church. After doing this several times Roy Shaffer, New Cumberland, captured the bird and turned it over to the Commonwealth Rod and Gun Club for release.

Last month the Pennsylvania GAME NEWS carried a short story concerning birds that stop at Rittenhouse Square, Philadelphia. Recently we received a note from Mr. Groskin listing 28 more species observed and identified there.

H. J. Klinger, of Pine Grove Furnace, counted 87 deer in that section in a two month period, one of them an albino.

Plant shrubs, or plants, two or three feet from the house. You will then have space to paint or do other necessary work around the building.

Sportsmen in Berks County carried on an extensive conservation program during the past year including the improvement of nine streams, and the establishment of a game refuge under W.P.A. projects; the trapping of 860 rabbits from several watersheds; the purchase of 1000 additional rabbits from a group of states, the purchase and release of 53 raccoons, and numerous other activities. Local clubs are now adding recommended equipment for propagating quail and ringnecks. There are 27 organizations in the County federation.

The Ohio Division of Conservation tagged 1800 rabbits last year in an effort to see how far from point of release they travel. It was learned that rabbits released rarely strayed more than one-fourth to one-half mile from a given point.

One village in northern China has specialized for 120 years in the busmess of hatching chicks artificially in earthenware jars.

More deer were killed by automobiles in a western New York County last year than hunters killed in a favorite Adirondack deer county. It is claimed most of them drifted over from Pennsylvania.

In addition to a patch planting program of game-food on more than 100 game propagation areas in Ohio, to benefit rabbits, pheasants, and upland game, the Bureau of Game Management of the Division of Conservation is planting large acreages of food for wild ducks and waterfowl, at Lake Pymatuning, Indian Lake, and Lake St. Marys. For upland game the Bureau is planting corn, soybeans, kaffir corn, lespedezia, Russian Sunflowers and buckwheat. For wild waterfowl, duck wheat, wild duck millet, and lespedezia is being planted. Most of the planting is being done in the refuges or on game propagation areas.

Game Protector Fred DeWitt, while checking over fishermen at Marlboro, N. Y., on the Hudrson River, accosted four generations: a great grandfather, 74 years of age; his son, age 52; a grandson, age 27; and a great grandson, all engaged in fishing without a license. Because of the age of the great grandson, it was not necessary for him to possess a license. However, the father, grandfather, and great grandfather settled by civil stipulation and each was assessed $10.00 for not possessing a fishing license as required by law.

According to the "Illinois Conservationist" some brewers in the West are offering cases of beer for the killing of all banded crows.

Italian fishermen are using over half a million glass bulbs a year as substitutes for the old fashioned cork floaters.



























Top row, left to right—Fur catch of C. O. Moyer and Son, Polk, Pa., photo by Refuge Keeper, R. H. Ewing; Releasing deer on Game Lands No. 111, Somerset Co. The animals were trapped in South Park, Pittsburgh, photo by Refuge Keeper, N. M. Ruha; Stray House Cat in act of killing rabbit—photo by F. W. Fisher, Paradise, Pa. Second row—Edward Drake of Wysox with 4-point; 11-point taken by Franklin Kimlnski, Nazareth; Mr. Kimlnski with his trophy; John H. Knan of Centre Hall and his two Sons. Each killed one of the nice bucks hanging behind them. Third row—Orphan fawn deer being fed by Game Protector, photo by Wm. H. Power, Erie; Members of Girardsville Sportsmen's Association help to release rabbits; Harvey Frankenberger of Glenshaw with 8-point. Bottom row—Ira Mellinger of Lancaster with snowy owl; Bird houses on display in Pittsburgh during "Wildlife Week"; auspices of Mother's Club, photo by Wm. C. Grimm. Wild turkeys on farm of Arthur Laten, Amaranth;

SPEAKING OF CROWS

(Continued from page 16)

and a desire to kill upon the part of mortals. Despite these persecutions and propensities the crow will remain. It has seen the white man come, and the red man go, and generations pass; it has heard the earthquake and seen the elements devastate the while it caws on and on to remind us of aboriginal nature.

The Creator of all things made the man who legislates, the man who writes, the man who makes shot and shell, the man who slays and the crow, and while any one of the several varieties may wonder why He made any one or all of the others, He made no mistakes. Others may think what they will of the crow, but in the thinking they should fortify themselves with facts and not form judgments on fancies. Naturally sympathetic with the under dog the writer voices appreciation and admiration for the crow that flies through Heaven's sweetest air, and when he comes this way it will be corn, not shot, with which we will greet him and his family.

The crow has certain qualities that should command for it an absolutely square deal. Its rugged individualism, fine physique, modest tolls, amusing antics in summer, optimistic spirit in the gloom of winter, ability to adapt itself to great depth of snow and all-around-the-year cheerfulness, have great appeal.

The Creator of birds did not make songsters of all the species. To the crow He gave a decided sense of humor, in fact, a monopoly of the grace in birds.

Be kind to the crow and considerate of its virtues even as was the late Isaac Slokum, sage, philosopher, banker, capitalist and one of the most picturesque and representative men of Lancaster County. Called for service by the local court, the time was the dead of winter, the place Little Britain along the Octoraro and the occasion a road view.

The prime petitioner violated the law by providing a sumptuous feast for the viewers. He fed his fellow petitioners and the multitudes in attendance, who had rallied to his support. He served two barrels of "stone fence" cider, and when the time arrived to view the proposed road Slokum was missing.

The house and barn were searched, the surroundings combed and a mysterious purchase of shelled corn was the clue that led to his discovery.

A small man with curvature of the spine, he had two boys carry the corn to a remote corner of the big farm, by the edge of the woods. They scattered the corn and the response of Harford, Cecil, York, Chester, Lancaster County and Canadian crows was as prompt as firemen when summoned by an alarm.

Chided for delaying the proceedings, he said, "with you fellows gorging yourselves with food, consuming cider in allopathic doses, and singing in discord, I conceived it my duty to minister to those hungry crows."

The depth of human sympathies can best be gauged by the measure of descent into pockets to relieve painful and pitiful situations. The shedding of dollars is more soothing and practical than the shedding of tears. Hear this appeal:

Sportsmen, spare that bird.
Wound not a single crow,
Like man he's bad,
Like man he's good,
But give the bird a show.



May the day never come when our countryside no longer echoes the call of the crow.

MY DOG AND I

We chanced on him, My Dog and I, at the end of an empty day;
We'd tramped the fields, we'd beat the brush, without one bird as pay.
He sat behind an old corncrib, his face turned to'ard the west;
His crutch lay idly by his side in his sunset hour of rest.
His eyes had dimmed, his hands grown thin, his body was bent and frail,
An aged soul alone in a world that once he held by the tail.
We pitied him, My Dog and I, we stopped for a word to cheer,
Then could not go had we willed it so, some force—it held us near.
His face it shone with a light of its own, with a look that defies my pen;
Contentment was there and a peace, I swear, 'most lost to modern men.
My Dog drew near, he fondled each ear, he felt him with expert hand;
A champion true, I'm sure he knew, the best in any land.
We sensed his power, My Dog and I, our hearts beat fast, then slow;
Tho blind the eyes he raised to the skies, they burned with a seeing glow.
He saw beyond the setting sun into the lands he'd known,
Where young and strong he'd hunted so long with champions of his own.
He saw the days of long ago and a land that was heavenly fair.
Where game beyond ken had filled each glen and wildfowl filled the air.
He'd passed us by, My Dog and I, once more he gave command
To dogs of fame 'mid birds and game that o'erran that bounteous land.
He swung along so young and strong, master of rod and gun,
His eyes gleamed bright, his heart was light, his life was richly spun.
His was the joy, as man and boy, to know life's richest treasure;
Through field and stream wild life did teem, God's gift in gen'rous measure.
He pitied us, My Dog and Me, he did not need our cheer,
His words came slow but clear and low, a voice I still can hear.
"My son," he said "my heart has bled for you and those to come,
I've had my life, my fun and strife, my wealth is a kingly sum,
Not gold, my boy, but greater joy—our wildlife at its best;
While you, my son, have missed the fun and so have all the rest."
We left him there, My Dog and I, that man so old and grey;
We left him to his memories and dreams that filled his day.
God rest you, Sir, my heart you stir to make a solemn vow;
To restore that Lost Inheritance, to start right here and now.
It may not be that I'll be free to taste life's fullest joy,
But by God's grace I'll restock this place and will it to my Boy!

I KILLED A DEER

By W. V. BROCK

HUNTING!

The very sound of the word makes my eyes sparkle and my flesh tingle. There flashes before me stately stands of timber; and my chest expands with the memory of the chilly, pungent, pine-laden air. What else, what one other thing in this intensely artificial, man-made environment can give such exultant, thrilling release.

If you were to ask 100 sportsmen if they had been hunting and 100 said "Yes" I'd wager that 80 per cent were wrong; 80 per cent might insist that they had shot a buck every season, or a dozen birds, and several rabbits, but I still say they haven't been hunting. Of the remaining 20 per cent half of them might not have the average of the 80 per cent, but they have been HUNTING. They have taken the world in its pure meaning. They have followed closely, given chase, outwitted the elusive. They have taken something of beauty, and color to cherish in their old age, a memory deep and sweet of honest combat and fair play. They have never driven wild things into a trap for slaughter.

My past experience in the beautiful timber country of Pennsylvania made me reluctant to go again into the woods last fall. I kept repeating to myself, "I hope we (the deer and I) have a contest, I hope my experience and intelligence can be pitted against a keen sense of smell and instinct."

Unfortunately it resulted as all previous efforts in the state had done. I did not do any hunting. I did not do any gunning or shooting.

I killed a deer.

In cold deliberate slaughter, I killed a deer. I am haunted by that bewildered, frightened little creature. Caught between two armies of men called "drivers" this animal had no chance to use a single, natural protective instinct. Of what avail is its God-given sense of elusiveness, of sight, smell or hearing, the incredible speed of its slender legs when men form groups of beaters and drive it, frantic with fright between them for another "Hunter" to shoot? What do these men know of the gratification of genuine sportsmanship? Have they sat for hours watching their prey feed, studying the wind and the terrain? Will it go up the mountain if alarmed, which way will it go if I miss? Have they ever taken the trouble to wrap each shell separately so there would be no alarming jingle? Have they ever greased the insides of their pant legs so that there would be no swish of corduroy for quick ears to detect?

I have had the pleasure of doing considerable hunting with bow and arrow. No one who has ever tried it will deny that it takes more skill to bring down a buck, but none will deny that it seems more sporting, too. The game seems to have a fairer chance, the odds more evenly divided. During one of my trips in the Black Forest two "drivers" came yelling through the timber while I was shooting with bow and arrow. Upon seeing me one of them said, "There is one of those ——— pot hunters. Go tell him to get the H—— out of here."

The fellow came over and looking askance at my bow and arrow told me I had no right to be in **their** country. Whereby he proceeded to stand at my side and make every bit of noise he could. When he figured he had spoiled my chances completely he left. And I suppose this gallant hunter went home and told his friends that he had a great time. No sport like it!

I have had similar experiences on previous trips. In Pennsylvania I have seen "drivers" use automobiles to place their men on three sides of a "box" and patrol the fourth side by driving their cars up and down it. The men on the first three sides wait for the deer to run into their shot! I have shot game in a great many countries having killed many deer and turkeys, much small game, the largest animal, a royal elk, but never have I seen such motorized sportsmanship! Never have I seen men in other countries drive game into a box barrage the same as we used in war in France?

I do not care how little or how much game there is, how many hungry fawns, barren does, or worthless bucks, this driving of game is not making men of our boys or improving the standards of Pennsylvania sportsmen.

CROSS PATCH—from page 12

"Look here, Doc," he said, "if that dog of yours chases cows any better than she points birds, she must be a whale of a cow dog."

"She's right smart handling cattle," Doc agreed, "but she's no shakes on quail or pheasant."

Jim looked across at Doc with raised eyebrows. He remembered the time Doc had run a field champion with their dogs and professed to have a household pet in tow. And again when he planted those bantam cocks in the field to see how Kerry would act. If this was one of his tricks it was well to be cautious.

Jim looked at Gal carefully, as she trotted between Kerry and Cap. Her action was smooth as silk but there was no question of tainted blood. She carried a deep red tail but her head was white with the exception of a black blot over one eye. Between the two extremities the colors mixed but never blended. Although smaller she had the same deep chest as Kerry and she seemed to carry her head high the way Cap did.

"Where did you get this mongrel, Doc?" Jim asked slyly. "Found her in the bull rushes, I suppose?"

"No," Doc replied, cautiously. "A fellow dropped her off here early last spring. Said she came from good stock but he couldn't use her. Nowadays you know it's not the dog you get, it's the breed. If an Irishman doesn't carry that crazy Patch line he ain't worth having and that goes for that English strain too."

"And who was this nit wit," Jim persisted.

"Just a friend of mine," Doc replied, the twinkle in his eye developing into a broad grin. "He lives up the road a piece and handles a lot of dogs. Seems to me he owns Cross Cross of Crossville, that international champ, and he's got an Irish lady by the name of Patch Patch of Patchtown.

With all their stubbornness neither Jim nor Sam could be called stupid. They both knew that Gal had out-smarted their dogs. Indeed she had gone far beyond that to show them a field dog they knew to be great. Half breed, it was true and if she deserved it or not she was mongrel but you forgot her markings in the wonder of her work. It was the dog that stood out not the breed and slowly the foolishness of their argument dawned on both of them. Jim grinned sheepishly at Sam.

"You win. Doc," Sam conceded, "she's a mongrel but she's better than a champion. What's her real name?"

"Well I'll tell you, boys," Doc continued. "That lady up ahead was the result of a misunderstanding. We just call her Gal but seems to me I remember she was christened 'Cross Patch'."

THE ARCHERS COLUMN—from page 27

14. How long are the feathers on an arrow?

A. This depends on the length of the arrow, as an arrow 23 inches long does not take the same length feather as a 28-inch arrow. The length of feather on a 23-inch arrow is 2 or 2¼ inches long while a 28-inch arrow takes a feather 2½ inches long.

15. Are hunting arrows made the same as target arrows?

A. Yes with the exception of the pile or point. The feathers are also longer than on a target arrow.

16. What types of points or piles are used on hunting arrows? Target arrows?

A. There are two general types of hunting points. One is the blunt type and the other broadhead or V shaped. If you have the patience you can make them from stone the same as the Indians; today they are made from steel. The blunt is used for killing small game and the broadheads for killing larger game. Target arrows are fitted with brass or steel points. They are tapered to a 45 or 60 degree angle.

17. When participating in a tournament how does a contestant distinguish his arrows from those of his target mates?

A. Arrows are distinguished by varied colored markings on the shaft. These markings are referred to as the crest.

18. What length of arrows should I use?

A. This depends entirely on your height and reach. To determine how long your arrow should be grasp a bow in your left hand and extend the arm to full length. Keeping the left arm in this position draw the bow string back with the fingers of the right hand until it reaches a point directly below the chin. Have a measurement taken from the chin to the outer side of the bow. This measurement determines the length of arrow you should use.

TIT FOR TAT---By H. Hurn Diller

ROY STERN, candy merchant, approached the be-whiskered, leather-booted, overall clad customer, "Is there something I can do for you?"

"No," replied the farmer tersely as he reached across the counter for another handful of sweet chocolates.

"We sell that candy," said Stern as the intruder thrust a handful of assorted chocolates into his leather jacket pocket.

"Ah! forget it," urged the farmer reaching for a large portion of bonbons.

"They're eighty cents a pound."

But the only reply the farmer made was. "Apples are eighty cents a bushel."

Only the police could stop the farmer's attack upon the sweets.

Hauled into court the prisoner was asked to explain why he had done such an incorrigible act.

"You see, your honor," explained the rustic with a provincial drawl, "I saw this man stop along the highway on Saturday, climb my fence and enter my land with his dogs. During his few hours of hunting on my land he broke down fences, shot one of my prize hens, and tore down my corn shocks. He was not content in stealing my apples, as I was his candy, but he broke a large branch of well-ripened fruit out of the heart of one of my choice trees. Returning to his car, he drove away with a prize hen in his hunting coat, pockets full of apples, and a long-necked pumpkin hooked over the bumper. I got his license number and———"

The judge interrupted. "Mr. Stern, where were you Saturday afternoon?"

"Your honor, I withdraw my charges and wish to pay the costs of prosecution," was the embarrassed reply.

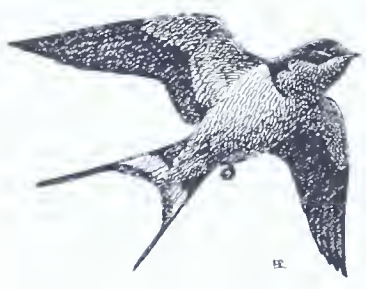
The gavel rapped. "Next case."

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* Note: This story is not original. It was related to me many years ago, but it is thought that it might furnish some reflective thought for the Pennsylvania hunter.—The Author.

A FARM-YARD NEIGHBOR---By George Miksch Sutton

The Barn Swallow has so come to depend upon the farm buildings of its human neighbors that it is almost never found where there are no civilized dwellings. During the last week in April this confiding ruddy-breasted bird returns from its Winter sojourn to the barn where it has nested for years.



On smoothly gliding wings it moves about the barn-yard capturing insects and darting in through the door and out again as it builds its mud cradle on a rafter, or sill. Dry grass and roots are often mixed with mud in making the cup-shaped nest, and the solid structure is later lined with grasses and warm feathers before the five or seven heavily spotted eggs are laid.

The Barn Swallow is the only species of swallow in North America which has a long forked tail. The outer feathers are very narrow and permit the bird to turn very quickly in its flight. The wings of all swallows are very long and pointed. In coloration the Barn Swallow is shining steel-blue above with white markings on the tail and reddish-brown below with a black band across the lower neck.

The birds are fed on insects food principally. The birds are very fond of May Flies which are caught along streams or ponds, and they are very fond of mosquitoes and crane flies. When the young birds first leave the nest their tails are rather short, and their breasts are almost white. The young birds associate with their parents for some months after they have left the nest and only rarely are two broods of birds reared during the year.

The common swallow of Europe is very similar to our Barn Swallow and is the swallow which is famous in literature having been referred to even in the Bible, proving that it has been known as migratory species of bird for hundreds of years. The swallows, principally, more than any other group of American Birds, deserve rigid protection because of their insect eating habits.

FUR BEARING ANIMALS ADD TO FARM INCOME

(Continued from page 14)

Raccoons and possums are other fur bearers found at times in farm woodlots or in forested areas adjoining the farm. They usually depend upon hollow trees or logs for homes. To encourage these animals a number of hollow den trees must be left standing by wood cutters. This also will assist squirrels and certain hole nesting birds.

The best way to encourage fur-bearers is to provide them with places on the farm which is to their liking. Do not trap or kill them until the furs are prime. Do not destroy their dens or homes. Do not destroy them wantonly unless they have become too numerous. Perhaps the good which is done will outweigh the loss of a chicken or a few corn stalks which are stolen when other food becomes scarce.

Bounties Are Paid On Certain Predators

Bounties are paid by the Pennsylvania Game Commission on certain animals and birds which are considered detrimental to valuable wildlife and to domestic poultry. Each year more than $100,000 is paid to residents of the State as bounties for the killing of predators. A great deal of this bounty money goes to farmers and farm boys. At this writing bounties in Pennsylvania are paid as follows: Weasel, 50c, and gray fox, $4 during the entire year; goshawk, $2, adult great horned owl, $2, and young great horned owls and goshawks $1, during the period November 1st to May 31st. All monies used for the payment of bounties come from part of the funds received from hunters in the sale of licenses. The hunter, therefore, is contributing funds for the control of predatory animals and birds which destroy poultry and at the same time many farmers or farm boys also benefit from the bounties collected on such creatures. In the case of predatory animals, there is likewise an additional income from the sale of the furs from these animals.

THE BRONZE LEGIONS

(Continued from page 9)

areas to the extent of 20 acres were treated in this manner in the City of Erie. This treatment has been carried out for a period of years in an effort to keep the beetles out of the extensive fruit region surrounding Lake Erie.

Our own back yard is a vital problem to us individually. We want to protect our plants, both to our use and for their appearance. Contact sprays, repellants and stomach poisons are among the various methods used for this purpose. Recommendations along this line may also be obtained in circular or bulletin form if requested from the State or Federal Department of Agriculture.

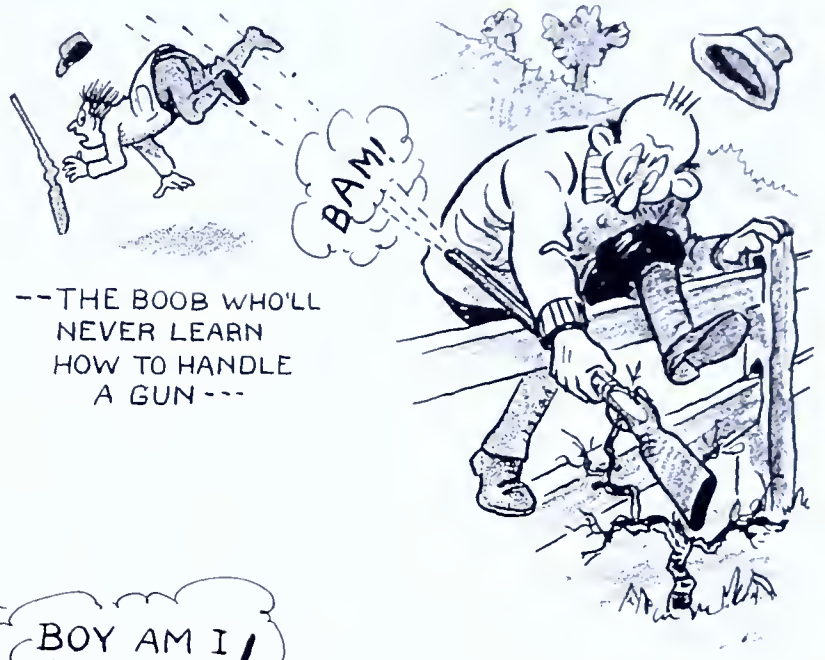
Orchardists, growers of special ornamental shrubs, shade and some forest trees may obtain results by following recommendations for their individual needs. Repellants for certain cases prevent excessive feeding attacks caused primarily by making the tree non-attractive rather than by poisoning the beetle. Stomach poisons sprayed on the foliage will be of additional value in controlling this and other leaf-eating pests.

Now that **you** know what can be done to protect **your** interests against the ravages of the bronzed legions—the legions of death—how about doing it?

THINGS PENNSYLVANIA CAN DO WITHOUT



--CAMPERS WHO ARE CARELESS WITH FIRE--

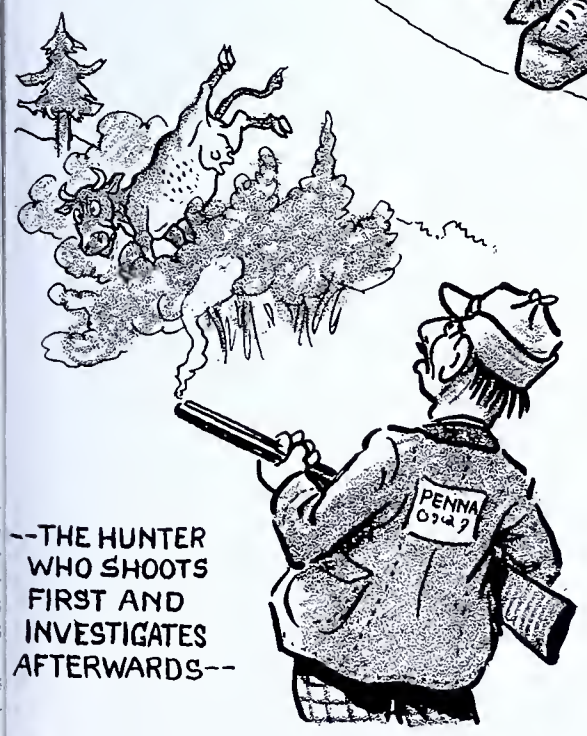


--THE BOOB WHO'LL NEVER LEARN HOW TO HANDLE A GUN---

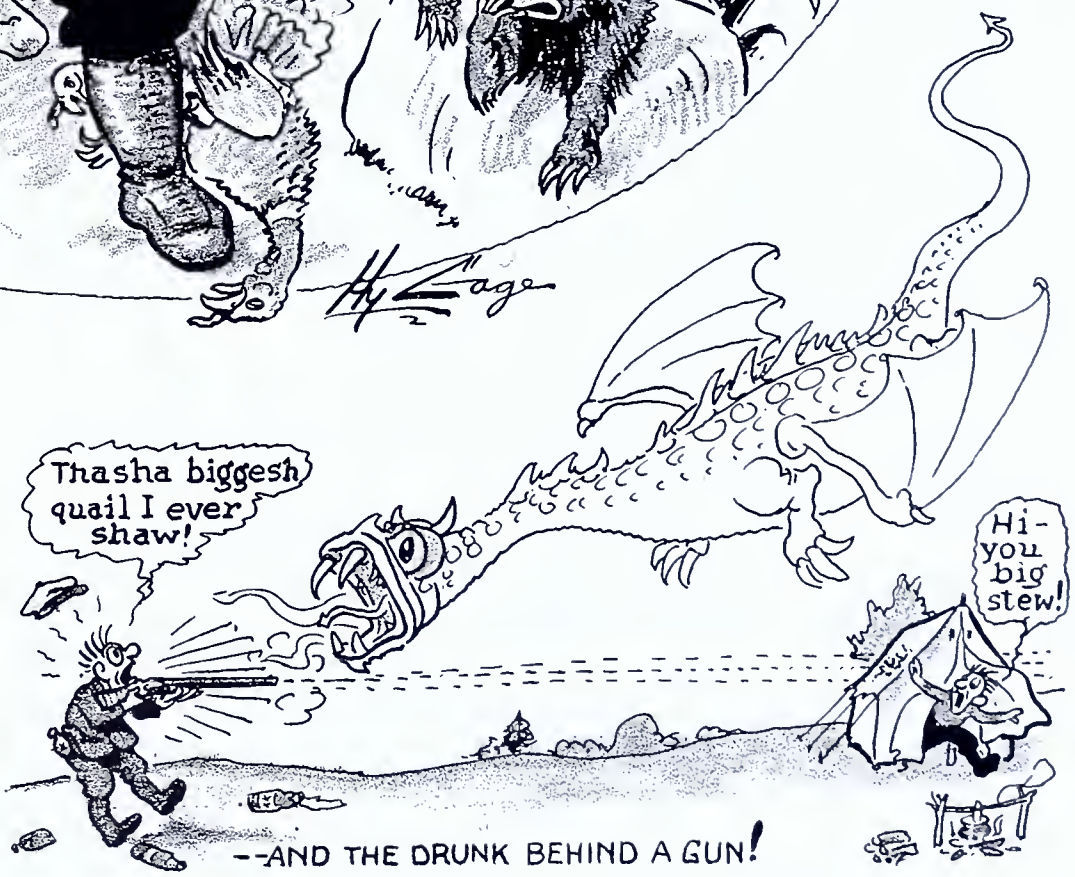


--THE GAME HOG--





--THE HUNTER WHO SHOOTS FIRST AND INVESTIGATES AFTERWARDS--



--AND THE DRUNK BEHIND A GUN!



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AUGUST 1938

TEN CENTS

PENNSYLVANIA GAME NEWS

Published monthly at 1117-1131 Wolfendale St., Pittsburgh, Pa., for Pennsylvania Game Commission, Harrisburg, Pa.
Executive and Editorial Offices. Commonwealth of Pennsylvania. Pennsylvania Game Commission. Harrisburg, Pa.

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The PENNSYLVANIA GAME NEWS is published each month at a yearly subscription rate of 50c or 10c a single copy. Club rates at 40c per year are available to organizations and business concerns presenting 25 or more subscriptions in a single order.

REMITTANCES MUST BE SUBMITTED BY CHECK OR MONEY ORDER, MADE PAYABLE TO COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF REVENUE. CASH IS FORWARDED AT THE SENDER'S RISK. STAMPS ARE NOT ACCEPTED.

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Material for each issue should be submitted not later than the FIRST OF EACH PRECEDING MONTH.

Permission to reprint will be granted provided proper credit is given.

Entered as second class matter at the Post Office of Pittsburgh, Pa., under Act of March 3, 1879.

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Vol. IX, No. 5

EDITORIAL

August, 1938

SPORTSMANSHIP IN ACTION

IT has long been the policy of the Pennsylvania Game Commission to confer with the chosen leaders of the organized sportsmen and other groups interested in wildlife problems whenever possible. In recent years the State Federation of Sportsmen's Clubs has supplied a fine mechanism through which the more than 900 local groups may voice their united opinions.

The conference of the Commission with the officers and directors of the Federation and the Izaak Walton League late in May to discuss seasons and other vital issues was most heartening. It was real sportsmanship in action, a sample of true democracy, with all agreeing to stand by the expressed wishes of the majority.

While the Commission was collecting information direct from every county through its own channels concerning the prospective game supply, including the deer situation, hundreds of local groups, spurred by their inability to agree upon recommendations at the annual meeting of the Federation in February, had previously devoted much time to studying local conditions.

Under the guidance of their leaders, these discussions were confined largely to vital issues. When their representatives came to Harrisburg to confer with the Commission they were in position to present **constructive suggestions, consolidated opinions,** and the recommendations they made were immediately taken under advisement by the Commission.

Before this magazine is off the press, the Commission in all probability will have announced its decisions on 1938 seasons and bag limits, to be published in full in the next issue of the GAME NEWS. Present indications are that the vast majority of our 600,000 sportsmen will be entirely satisfied so long as the regulations are at all in keeping with the recommendations submitted. This is sportsmanship in action!

During the last week in June, the U. S. Biological Survey, also believing in approaching its regulatory problems in a democratic way, conferred with the officials of the forty-eight states at Asheville, N. C., relative to waterfowl and other migratory game bird regulations. When the regulations approved by the President are announced, it is predicted that they also will meet with the widespread approval of the sportsmen of the country.

We make lasting progress by jointly discussing our views, based upon local findings.

TEACH THEM HOW

AN editorial in the June issue of "The American Rifleman," official publication of the National Rifle Association, offers a challenge to every thinking sportsman.

The keynote of that editorial is much the same as the one published in July GAME NEWS on "The Conservation of Youth."

Now that school is out several million active youngsters are looking for something to do. Says The American Rifleman:

> "Boys—and girls—will be accidentally shot as the result of unsupervised use of air rifles and firearms in the hands of untrained playmates. The newspapers will report that many of these accidents occurred at target practice but investigation will disclose that the target practice consisted of shooting at tin cans, bottles floating down a creek, or some improvised target tacked on a back fence or on the trunk of a green tree.
>
> "Parents do not try to stop their children from playing baseball because some lad breaks his leg, or suffers a fractured skull from a wildly tossed bat, but in every community hundreds of parents do try to stop their children from handling firearms every time the newspapers report a gun accident! Perhaps the greatest stumbling block to the continued growth, the greatest threat to the very existence, of target shooting as a sport in America is the annual crop of accidents and near-accidents with air rifles and .22-caliber rifles during the vacation period.
>
> "Consequently every shooting club, every individual shooter, has an immediate personal stake in the problem of eliminating these firearm accidents among the youngsters. That proper training and supervision will eliminate such accidents has been proven by the results attained by The National Rifle Association through its Junior rifle program.
>
> "More than 68,000 Junior qualification awards were made by The National Rifle Association last year, and more than 145,000 boys and girls received more or less instruction in the handling of .22-caliber rifles, on a thousand Junior ranges throughout the country. Not one youngster received as much as a scratch. No boy or girl who has received rifle instruction under the banner of The National Rifle Association during the twelve years from 1926 to the present, has, to our knowledge, ever been involved in a gun accident. This remains true even though many of them have taken their places in the hunting fields as well as on senior target ranges.
>
> "Educators have come to such a complete realization of this fact that this summer fully fifty per cent of those privately conducted camps, which by reason of age groups and camp facilities might be expected to include rifle ranges as a part of their equipment, will have such ranges. The National Director of Safety of the Boy Scouts of America has for several years actively recommended the institution of rifle-instruction courses in all Boy Scout Camps where ranges can be safely built.
>
> "But only a small proportion of our boys and girls attend summer camps. What can be done to provide the same kind of instruction for the rest of our youngsters?"

If the members of the American Rifle Association, and its over 2,000 Senior Rifle Clubs, are interested in setting aside an evening or two each week to teach the youngsters of their communities how to handle firearms safely, why should not the organized sportsmen's clubs of Pennsylvania do the same thing? Why not teach them how?



Duck Stamp Design, 1938 -

Richard Bishop



Photo by B. M. Acosta

"They are merely water poured into the already-thin soup." Whiteface Mountain, in the Adirondacks, after it had been 'developed' for motor tourists.

CONSERVATION ESTHETIC

By ALDO LEOPOLD

Reprinted courtesy Bird-Lore

Barring love and war, few enterprises are undertaken with such abandon, or by such diverse individuals, or with so paradoxical a mixture of appetite and altruism, as that group of avocations known as outdoor recreation. It is, by common consent, a good thing for people to get back to nature. But wherein lies the goodness, and what can be done to encourage its pursuit? On these questions there is confusion of counsel, and only the most uncritical minds are free from doubt.

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Recreation became a problem with a name in the days of the elder Roosevelt, when the railroads which had banished the countryside from the city began to carry the city-dweller, **en masse**, to the countryside. It began to be noticed that the greater the exodus, the smaller the per capita ration of peace, solitude, wild life, and scenery, and the longer the migration to reach them.

The automobile has spread this once mild and local predicament to the outermost limits of good roads—it has made scarce in the hinterlands something once abundant in the back forty. But that something must nevertheless be found. Like ions shot from the sun the week-enders radiate from every town, generating heat and friction as they go. A tourist industry purveys bed and board to bait more ions faster, further. Advertisements on rock and rill confide to all and sundry the whereabouts of new retreats, landscapes, hunting-grounds, and fishing-lakes just beyond those recently overrun. Bureaus build roads into new hinterlands, then buy more hinterlands to absorb the exodus accelerated by the roads. A gadget industry pads the bumps against nature-in-the-raw; woodcraft becomes the art of using gadgets. And now, to cap the pyramid of banalities, the trailer. To him who seeks in the woods and mountains only those things obtainable from travel or golf, the present situation is tolerable. But to him who seeks something more, recreation has become a self-destructive process of seeking but never quite finding; a major frustration of mechanized society.

The retreat of the wilderness under the barrage of motorized tourists is no local thing; Hudson Bay, Alaska, Mexico, South Africa are giving way, South America and Siberia are next. Drums along the Mohawk are now honks along the rivers of the world. **Homo sapiens** putters no more under his own vine and fig tree; he has poured into his gas-tank the stored motivity of countless creatures aspiring through the ages to wiggle their way to pastures new. Ant-like he swarms the continents.

This is Outdoor Recreation, Model 1938.

Who now is the recreationist, and what does he seek? A few samples will remind us.

Take a look, first, at any Duck marsh. A cordon of parked cars surrounds it. Crouched on each point of its reedy margin is some pillar of society, automatic ready, trigger finger itching to break, if need be, every law of commonwealth or commonweal to kill a Duck. That he is already overfed in no way dampers his avidity for gathering his meat from God.

Wandering in the near-by woods is another pillar, hunting rare ferns or new Warblers. Because his kind of hunting seldom calls for theft or pillage, he disdains the killer. Yet, like as not, in his youth he was one.

At some near-by resort is still another nature-lover—the kind who writes bad verse on birchbark. Everywhere is the unspecialized motorist whose recreation is mileage, who has run the gamut of the National Parks in one summer, and now is headed for Mexico City and points south.

Lastly, there is the professional, striving through countless conservation organizations to give the nature-seeking public what it wants, or to make it want what he has to give.

Why, it may be asked, should such a diversity of folk be bracketed in a single category? Because each, in his own way, is a hunter. And why does each call himself a

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Photo by A. D. Cruickshank

"The ornithologist is ready to bite off ten-penny nails"

conservationist? Because the wild things he hunts for have eluded his grasp, and he hopes by some necromancy of laws, appropriations, regional plans, reorganization of departments, or other form of mass-wishing, to make them stay put.

* * *

Recreation is commonly spoken of as an economic resource. Senate committees tell us, in reverent ciphers, how many millions the public spends in its pursuit. It has indeed an economic aspect—a cottage on a fishing-lake, or even a Duck-point on a marsh, may cost as much as the entire adjacent farm.

It has also an ethical aspect. In the scramble for unspoiled places, codes and decalogues evolve. We hear of 'outdoor manners'. We indoctrinate youth. We print definitions of 'What is a sportsman?' and hang a copy on the wall of whosoever will pay a dollar for the propagation of the faith.

It is clear, though, that these economic and ethical manifestations are results, not causes, of the motive force. We seek contacts with nature because we derive pleasure from them. As in opera, economic machinery is employed to create and maintain facilities. As in opera, professionals making a living out of creating and maintaining them, but it would be false to say of either that the basic motive, the raison d'etre, is economic. The Duck-hunter in his blind and the operatic singer on the stage, despite the disparity of their accoutrements, are doing the same thing. Each is reviving, in play, a drama formerly inherent in daily life. Both are, in the last analysis, esthetic exercises.

* * *

Public policies for outdoor recreation are controversial. Equally conscientious citizens hold opposite views on what it is, and what should be done to conserve its resource-base. Thus the Wilderness Society seeks to exclude roads from the hinterlands, and the chamber of commerce to extend them, both in the name of recreation. The game-farmer kills Hawks and the bird-lover protects them, in the name of shotgun and field-glass hunting respectively. Such factions commonly label each other with short and ugly names, when, in fact, each is considering a different component of the recreational process. As I shall show shortly, these components differ widely in their characteristics or properties. A given policy may be true of one but false for another.

It seems timely, therefore, to segregate the components, and to examine the distinctive characteristics or properties of each.

We begin with the simplest and most obvious: the physical objects which the outdoorsman may seek, find, capture, and carry away. In this category are wild crops such as game and fish, and the symbols or tokens of achievement such as heads, hides, photographs, and specimens.

All these things rest upon the idea of trophy. The pleasure they give is, or should be, in the seeking as well as in the getting. The trophy whether it be a bird's egg, a mess of trout, a basket of mushrooms, the photograph of a bear, the pressed specimen of a wild flower, or a note tucked into the cairn on a mountain peak, is a certificate. It attests that its owner has been somewhere and done something—that he has exercised skill, persistence, or discrimination in the age-old feat of overcoming, outwitting, or reducing-to-possession. These connotations which attach to the trophy usually far exceed its physical value.

But trophies differ in their reactions to mass-pursuit. The yield of game and fish can, by means of propagation or management, be increased so as to give each hunter more, or to give more hunters the same amount. During the past decade a profession of wild-life management has sprung into existence. A dozen universities teach its techniques, conduct research for bigger and better wild animal crops. However, when carried too far, this stepping-up of yields is subject to a law of diminishing returns. Very intensive game or fish-management lowers the unit value of the trophy by artificializing it.

Consider, for example, a trout, raised in a hatchery and newly liberated in an overfished stream. The stream is no longer capable of natural trout production. Pollution has fouled its waters, or deforestation and trampling have warmed or silted them. No one would claim that this trout has the same value as a wholly wild one caught out of some unmanaged stream in the high Rockies. Its esthetic connotations are inferior, even though its capture may require skill. (Its liver, one authority says, is also so degenerated by hatchery feeding as to forebode an early death.) Yet several over-fished states now depend almost entirely on such man-made trout.

All intergrades of artificiality exist, but as mass-use increases it tends to push the whole gamut of conservation techniques toward the artificial end, and the whole scale of trophy-values downward.

To safeguard this expensive, artificial, and more or less helpless trout, the Conservation Commission feels impelled to kill all Herons and Terns visiting the hatchery where it was raised, and all Mergansers and otters inhabiting the stream in which it is released. The fisherman perhaps feels no loss in this sacrifice of one kind of wild life for another, but the ornithologist is ready to bite off ten-penny nails. Artificialized management has, in effect, bought fishing at the expense of another and perhaps higher recreation; it has paid dividends to one citizen out of capital stock belonging to all. The same kind of biological wildcatting prevails in game-management. In Europe, where wild-crop statistics are available for long periods, we even know the 'rate of exchange' of game for predators. Thus, in Saxony, one Hawk is killed to each seven game-birds bagged, and one predator of some kind to each three head of small game.

Damage to plant-life usually follows artificialized management of animals—for example, damage to forests by deer. One may see this in north Germany, in northeast Pennsylvania, in the Kaibab, and in dozens of other less publicized regions. In each case over-abundant deer, deprived of their natural enemies, have made it impossible for deer food-plants to survive or reproduce. Beech, maple, and yew in Europe; ground hemlock and white cedar in the eastern states; mountain mahogany and cliff-rose in the West are deer-foods threatened by artificialized deer. The composition of the flora from wild flowers to forest trees is gradually impoverished, and the deer in turn are dwarfed by malnutrition. There are no stags in the woods today like those on the walls of feudal castles.

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On the English heaths reproduction of trees is inhibited by rabbits over-protected in the process of cropping Partridges and Pheasants. On scores of tropical islands both flora and fauna have been destroyed by goats introduced for meat and sport. It would be hard to calculate the mutual injuries by and between mammals deprived of their natural predators, and ranges stripped of their natural food-plants. Agricultural crops caught between these upper and nether millstones of ecological mismanagement are saved only at the cost of endless indemnities and barbed wire.

We generalize, then, by saying that mass-use tends to dilute the quality of organic crop trophies like game and fish, and to induce damage to other resources such as non-game animals, natural vegetation, and farm crops.

The same dilution and damage is not apparent in the yield of 'indirect' trophies, such as photographs. Broadly speaking, a piece of scenery snapped by a dozen tourist cameras daily is not physically impaired thereby, nor does any other resource suffer when the rate increases to a hundred. The camera industry is one of the few innocuous parasites on wild nature.

We have, then, a basic difference in reaction to mass-use as between two categories of physical objects pursued as trophies.

* * *

Let us now consider another component of recreation which is more subtle and complex: the feeling of isolation in nature. That this is acquiring a scarcity-value which is very high to some persons is attested by the wilderness controversy. The proponents of wilderness have achieved a compromise with the road-building bureaus which have the custody of our National Parks and Forests. They have agreed on the formal reservation of roadless areas. Out of every dozen wild areas opened up, one may be officially proclaimed 'wilderness', and roads built only to its edge. It is then advertised as unique, as indeed it is. Before long its trails are congested, it is being dolled up to make work for CCC's, or an unexpected fire necessitates splitting it in two with a road to haul fire-fighters. Or the congestion induced by advertising may whip up the price of guides and packers, whereupon somebody discovers that the wilderness policy is undemocratic. Or the local chamber of commerce, at first quiescent at the novelty of a hinterland officially labeled as 'wild', tastes its first blood of tourist-money. It then wants more, wilderness or no wilderness.

In short, the very scarcity of wild places, reacting with the **mores** of advertising and promotion, tends to defeat any deliberate effort to prevent their growing still more scarce.

It is clear without further discussion that mass-use involves a direct dilution of the opportunity for solitude; that when we speak of roads, camp-grounds, trails, and toilets as 'development' of recreational resources, we speak falsely in respect of this component. Such accommodations for the crowd are not developing (in the sense of adding or creating) anything. On the contrary, they are merely water poured into the already-thin soup.

* * *

We now contrast with the isolation-component that very distinct if simple one which we may label 'fresh-air and change-of-scene'. Mass-use neither destroys nor dilutes this value. The thousandth tourist who clicks the gate of the National Park breathes approximately the same air, and experiences the same contrast with Monday-at-the-office, as does the first. One might even believe that the gregarious assault on the outdoors enhances the contrast. We may say, then, that the fresh-air and change-of-scene component is like the photographic trophy—it withstands mass-use without damage.

* * *

We come now to another component: the perception of the natural processes by which the land and the living things upon it have achieved their characteristic forms (evolution) and by which they maintain their existence (ecology). That thing called 'nature study', despite the shiver it brings to the spines of the elect, constitutes the first embryonic groping of the mass-mind toward perception.

The outstanding characteristic of preception is that it entails no consumption and no dilution of any resource. The swoop of a Hawk, for example, is perceived by one as the drama of evolution, by another as a threat to the full frying-pan. The drama may thrill a hundred successive witnesses; the threat only one—for he responds with a shotgun.

To promote perception is the only truly creative part of recreational engineering.

This fact is important, and its potential power for bettering 'the good life' only dimly understood. When Daniel Boone first entered into the forests and prairies of "the dark and bloody ground", he reduced to his possession the pure essence of 'outdoor America'. He didn't call it that, but what he found is the thing we now seek, and we here deal with things, not names.

Recreation, however, is not the outdoors, but our reaction to it. Daniel Boone's reaction depended not only on the quality of what he saw, but on the quality of the mental eye with which he saw it. Ecological science has wrought a change in the mental eye. It has disclosed origins and functions for what to Boone were only facts. It has disclosed mechanisms for what to Boone were only attributes. We have no yardstick to measure this change, but we may safely say that, as compared with the competent ecologist of the present day, Boone saw only the surface of things. The incredible intricacies of the plant and animal community —the intrinsic beauty of the organism called America, then in the full bloom of her maidenhood—were as invisible and incomprehensible to Daniel Boone as they are today to Mr. Babbitt. The only true development in American recreational resources is the development of the perceptive faculty in Americans. All of the other acts we grace by that name are, at best, attempts to retard or mask the process of dilution.

Let no man jump to the conclusion that Babbitt must take his Ph.D. in ecology before he can 'see' his country. On the contrary, the Ph.D. may become as callous as an undertaker to the mysteries at which he officiates. Like all real treasures of the mind, perception can be split into infinitely small fractions without losing its quality. The weeds in a city lot convey the same lesson as the redwoods; the farmer may see in his cow-pasture what may not be vouchsafed to the scientist adventuring in the South Seas. Perception, in short, cannot be purchased with either learned degrees or dollars; it grows at home as well as abroad, and he who has a little may use it to better advantage than he who has much. As a search for perception, the recreational stampede is footless and unnecessary.

There is, lastly, a fifth component: the sense of husbandry. It is unknown to the outdoorsman who works for conservation with his vote rather than with his hands. It

(Continued on Page 31)



Photo by Frank N. Wilson

"Kill all . . . Terns . . ."

A COOPERATIVE

The President of the Game Commission points the way to Better Hunting



The author practices what he preaches and is rewarded accordingly when he hunts on a farm-game project.

THE problem confronting most Game Commissions and Conservation Departments in connection with small game hunting in agricultural territory, especially near large centers of population, is one demanding the serious attention of all game administrators. In Pennsylvania, we have tried to find ways and means of solving it for many years, and in 1936, after studying the various methods tried by others, we adopted what we call our Cooperative Farm-Game Program.

Our problem is intensified due to a large hunting population, totaling over 600,000 licensed hunters, and because agriculture is conducted so intensively, especially in the Southeastern and Southwestern sections. With us, it becomes more pressing as hunting increases in popularity and posted acreage has greatly increased in recent years. Since all hunters do not conduct themselves in a sportsmanlike manner, it is but natural that farmers resort to the simplest means of protection open to them, which is by posting against trespass.

Protection for Farmers

It is generally recognized that farmers want protection against vandalism above all else, so protection is one of the basic features of our Cooperative Farm-Game Program. Insofar as sportsmen are concerned, their main desire is open hunting territory well stocked with game. Consequently, another basic feature of our plan is to improve environmental conditions within project areas.

A matter which somewhat complicates the problem is that agriculturalists usually are not inclined to believe good farming practices can be successfully conducted on the same area in conjunction with sound game management practices. We believe they can, and there are good examples in our State to prove this contention. Unfortunately, only a comparatively small proportion of our farmers are really game-minded. This is particularly true of the thrifty farmers in the southeastern part of the state who are of German descent and are commonly known as Pennsylvania Dutch. Many of them enjoy seeing wildlife in limited numbers on their farms, but very few can be induced to foster a substantial crop. Instead they are quite likely to discourage a game crop by the elimination of brush, weeds, vines, etc., from fence rows and even from untillable spots on their farms, such as gulleys, rocky areas and eroding hillsides. Even in our more intensively tilled sections, there is usually a woodlot or two on each farm, but all too frequently these woodlots are the only area available to provide winter food and cover for wildlife. However, if these woodlots are grazed by cattle, as is often the case, little or no growing shrubs and weeds are left, which means the ruination of practically all natural habitat.

Extensive Restocking Is Practiced

Large quantities of cottontail rabbits, ringneck pheasants, and bobwhite quail have been released for stocking purposes throughout the State over a long period of years, at huge expense. Many of these restocking efforts failed to produce worthwhile results, although others where environmental conditions were favorable proved successful. Every conceivable effort of a practical nature has been exerted in our State to enforce protective game laws and regulations; to control the yearly kill to or below the annual production; to control predatory species; and to educate all hunters to become conservation-minded and good sportsmen.

In our forest areas, Pennsylvania's system of managed game refuges has been decidedly effective in preventing an over-kill of forest game. Fortunately in such areas, except in a few more or less limited sections, prohibition against trespassing does not create much of a problem. On the other hand, posted acreage is far more evident in the intensively tilled agricultural territory comprising the Southeastern and Southwestern sections of the State.

I do not want to bore you by a too-detailed description of the Cooperative Farm-Game plan, but will explain as briefly as possible its important provisions.

Minimum Requirements

Each project comprises a group of connecting farms. We started with the idea of securing a minimum of a thousand acres or more in a contiguous block, but found that difficult of attainment. Later the Commission

Farm-Game Program

By NICHOLAS BIDDLE

agreed to accept as small an area as 300 acres to start a project. If our plan proves successful, there is every reason to believe that it will sell itself and that adjoining farmers who at first are not interested in cooperating will later ask to do so. As a matter of fact, most of the project areas now contain more than one thousand acres. The projects are established under provisions of law creating Auxiliary State Game Refuges and are merely a sub-classification of that system. All Auxiliary projects are on privately-owned lands, for which the Commission leases the hunting rights without cost. At least two-thirds of all project areas remain open to public hunting.

As previously stated, one of the objectives of the plan is to open up to public shooting as much farm acreage as possible. Consequently, the Commission is more interested in securing projects in sections where many of the farms were previously posted against public hunting.

Due to the expense involved, the Commission has been compelled to limit the establishment of Cooperative Farm-Game Projects to the two better agricultural sections of the State. It is in these two sections, comprising 21 of the State's 67 counties, where the hunting pressure is the greatest.

The owner or tenant of each farm is asked to sign an agreement vesting in the Game Commission the hunting rights on his property for a period of at least five years. No rental is paid, and it is our firm belief that should we ever start paying a rental for the use of any farm, sooner or later the demand would be so great that the Game Fund would be bankrupt in a short time. Protection against reckless shooting and vandalism is the compensation which appeals to farmowners and tenants, so protection is the inducement we offer them in return for permitting lawful hunting by the public and for permitting or cooperating in habitat improvement.

A project agreement may be canceled by the Commission should a lessor make request to that effect and present a reasonable excuse. The farmers ordinary farm activities are not interfered with. He raises his crops and pastures his cattle as he pleases.

Refuges and Safety Zones

A number of small game breeding or retreat areas are set apart as refuges within each project area. They range in size from a few acres up to fifty, and are selected jointly by the farmers concerned and an officer of the Commission. Each refuge is surrounded by a single strand of smooth wire, if a fence is not available, and conspicuously posted, warning sportsmen that hunting within the refuge is unlawful and subject to a penalty of $25.00.

The area around buildings, having a radius of not more than 150 yards, is declared a Safety Zone and well posted by the Commission. No hunting is permitted within Safety Zones except by the occupants of the house, or by their explicit permission. This feature of our plan, a form of protection, has proven its value even beyond our expectations. One of the frequent complaints made by farmers is that hunters shoot too close to buildings. Safety Zones reduce this danger to a minimum.

In addition to such protection as our regularly employed officers are able to give, Deputy Game Protectors are employed on a per diem basis to patrol the various project areas during the hunting season or for such part of it as conditions warrant. Their job is to see that hunters observe refuge and safety zone restrictions, do no damage to farm property or livestock, observe regulations adopted by the Commission and in general conduct themselves as good sportsmen should. Ordinarily one Deputy patrols about 500 acres of a project area, but in some instances one patrolman handles as much as 1,000 acres.

With the exception of areas set apart as refuges, or declared safety zones, the farms comprising a project remain open to public hunting. No special permit is required except the customary hunting license. Sportsmen are, however, requested to contact the farmer concerned, make friends with him, and offer to purchase from him some of his farm produce which they can use at home. Sportsmen are urged to demonstrate to co-



A few rows of grain left uncut along edges of fields near good cover furnishes food for wildlife.

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Photo by Seth Gordon

An island of cover in cultivated fields provides a safe retreat for wildlife and provides protection to them while feeding. Rough and rocky nooks such as this should be protected against pasturing. They likewise are excellent places on which sportsmen may establish retreat refuges in cooperation with landowners.

operating farmers that they will live up to the letter of the law, will protect the farmer's property, and will report any infractions observed to one of the Commission's representatives. A very important objective of our plan is the creation of a mutual understanding of each other's rights and wishes, and the development of a spirit of fellowship and cooperation.

Educational signs are posted throughout project areas calling sportsmen's attention to the fact that they are guests of the farmer, that hunting is enjoyed through the courtesy and that it is unlawful to leave gates open or bars down, to break down fences, or to injure or kill farm livestock, and that applicable protective laws will be enforced by Game Protectors.

Project areas are given special attention with respect to stocking game. During the summer of 1937 a total of 8,882 ringneck pheasants, as well as 370 bobwhite quail were stocked on project areas which had at that time been signed up.

Farmers Cooperate in Raising Game

Cooperating farmers and their families are given an opportunity to raise ringneck pheasants from eggs furnished by the Commission. They are paid 50c per head for birds raised to six weeks of age and in good condition. Up to this time, all birds raised have been released on the projects where raised. We do not guarantee, however, that such a policy will be continued, and reserve the privilege to use birds so raised for stocking elsewhere.

It is the Commission's desire to have each project area support as large a crop of game as conditions permit. In this connection consideration must be given to the kind of crops the farmer raises. He should not suffer damage to crops from any species of game. In two of the counties of the Southeastern section of the State, namely, Chester and Lancaster, thousands of bushels of tomatoes are raised annually for a canning company. Last year on several of the projects in these counties many bushels of ripe tomatoes were damaged; in fact, practically ruined by ringneck pheasants. When the situation was reported to the Commission its officers were instructed to take prompt action to prevent further damage.

To make project areas as attractive as possible for game, a program intended to improve environmental conditions is conducted by such practical means as finances and circumstances permit. In this connection we are, naturally, governed to a large extent by the farmer's attitude.

Efforts are made to persuade farmers not to cut all of the brushy growth along streams, fences, ditches, gullies and waste spots but to leave enough to provide suitable cover. Such brushy areas seldom interfere with ordinary farm operations and it is believed that with proper educational effort a fair proportion of the farmers concerned can be induced to permit a reasonable proportion of this material to remain standing. Too often this growth is destroyed by cattle grazing, so wherever possible arrangements are made with the farmer to refrain from pasturing such areas.

Cooperative Farm-Game Projects as previously pointed out, are all in agricultural territory. Most of the areas are intensively cultivated although a few of the farms, owned by business men and used mainly for residential purposes, are not very intensively farmed. Naturally, the latter lend themselves more readily for game management purposes.

Food and cover can both be provided by planting relatively narrow strips, or small plots, to various kinds of cereals in places which are not objectionable to the farmer concerned. Wherever possible these grain plots are placed adjacent to woodlots or some other natural cover. This grain is left standing for fall and winter use. The farmer concerned is given first opportunity of doing the work for which he is paid a reasonable price by the Commission. The plots vary in size from one-eighth acre to an acre. Their cost varies considerably, but a fair average is $10.00 per acre.

Purchase of Grain From Cooperator

Wherever possible, arrangements are made to purchase strips of grain from the respective farmers, the grain to remain uncut. Corn and wheat can usually be purchased without much difficulty, and it is customary to arrange for them along fence rows and woodlots. The price the farmer is ordinarily paid for such strips is based on the estimated per acre value of the prospective crop, less the cost of harvesting. It varies for different crops, but a general average is $25.00 per acre for corn and $16.00 per acre for wheat.

Using the Michigan mixture as a base, after considerable experimentation the Game Commission developed a seed mixture especially desirable for planting food plots on farm-game projects and elsewhere. We call this mixture the Pennsylvania Game Food-Plot Mixture. It consists of eleven different grains, including sudan grass, dwarf broom corn, Japanese millet, wheatland milo, buckwheat, prose, sorghum, sunflower and flax.

These grains mature at different times during the late summer and fall, and many of them retain the seeds on the stem until late in the winter. The mixture thus supplies food as well as cover from early fall until late in the winter. Certain of the grains selected have strong stems which aid in holding up the weaker stemmed plants. Consequently, many of the plants hold up their heads above the snow and thus make seed available to game regardless of deep snow.

This spring two different seed houses made up about four tons of this special mixture. Through the medium of the Pennsylvania Game News, circulars, and newspaper publicity, sportsmen's organizations were told about this mixture and where it could be purchased. The greater part of the four tons mixed by the two seed firms was purchased by sportsmen's organizations and individuals. Almost a ton was purchased by the Game Commission, of which between five and six hundred pounds was sewed within Farm-Game Projects.

This seed mixture is sewed at a rate of 15 to 20 pounds per acre. On this basis the four tons of seed planted about 500 acres distributed in many small plots throughout the State.

Considerable interest was manifested in this seed mixture by many persons outside of Pennsylvania. The two seed firms reported to us that they received orders from several of the New England States, New York, New Jersey and Ohio. Also they received inquiries from such distant points as Montana, Nevada, Texas, Missouri and Kentucky.

Use of Flushing Bars Encouraged

Cooperating Farmers are encouraged to use flushing bars on their mowing and reaping machines. To create an interest in this connection a number of flushing bars were provided by the Game Commission in the spring of 1937 and many farmers used them last summer with very good results. The cost of a flushing bar is quite small and we feel that the good results obtained amply repaid the Commission for the small outlay involved, and it helped to make the users game-minded. By setting an example on Cooperative Farm-Game Projects, we hope the use of flushing bars will become more or less general throughout the State. Of course, we could not afford to adopt the general practice of furnishing flushing bars, but most farmers are nature lovers, and as they be-

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come more game conscious, it is our hope they will gladly furnish their own flushing bars. Sportsmen's organizations are told that they would do well to furnish flushing bars to farmers in their vicinity.

Feeding shelters of various kinds are placed within project areas wherever suitable spots can be found, subject, of course, to the farmer's wishes. Grain for these shelters is purchased from the farmer wherever possible. Some of them take sufficient interest in the matter to keep the shelter well supplied with grain during the winter months. Where natural cover is insufficient, artificial retreats and shelters are provided for rabbits, ringnecks, quail, etc.

It is somewhat too early to determine to what extent farmers will cooperate with us in the matter of improving the game habitat by the planting of evergreen shrubs or trees where needed for cover spots. If they show sufficient interest by being willing to assist in planting evergreens where needed, the Commission hopes to furnish seedlings.

Considerable thought has been given to the advisability of planting food bearing shrubs and vines on the various project areas, but at the present time this does not appear vitally important. An abundance of such plants grow naturally if permitted to do so by the farmer. Planting is costly and it is evident that large expenditures for this purpose would be foolish unless we know definitely that the landowner is sufficiently interested to protect whatever is planted. As the program is just getting under way, no great amount of habitat improvement work has yet been done, and we have not reliable cost figures on which to base expenditure estimates. Sportsmen's organizations show evidence of being willing to give considerable aid in this connection, much of which can be done with practically no outlay of money. They can transport food producing shrubs and vines from thickets to spots where they are needed. Likewise, they can help by assuring strips of standing grain, which can usually be secured at comparatively little expense. A number of organizations have already taken a decided interest in this direction and there is every indication that their interest will continue in the future.

After this somewhat sketchy description of our Cooperative Farm-Game Plan, I should like to take just a few more minutes to tell you what has been accomplished. The plan was adopted in 1936 and is therefore only two years old. We now have arrangements made for 41 projects, distributed through 17 of the 21 counties where they may now be established. The 41 projects comprise 542 farms, aggregating 47,738 acres. Only three farms have so far been withdrawn by the cancellation of leases.

Thirty-six of the 41 projects are completely established and within the other five the refuges are now being set up and safety zones marked and posted. Within the 36 projects a total of 426 small retreat refuges have been created, aggregating 3514.5 acres, or an average of 8.3 acres each.

Twenty-nine of these projects comprising 30,573 acres were completely set up and in operation during the hunting season last fall.

During and after the open season a systematic survey was conducted by our men, both by personal contact and by questionnaire, to determine the reaction of farmers and hunters to the plan, and its effectiveness in protecting farm property, livestock and human life. Among other things the survey disclosed conclusively that: the majority of cooperating farmers were fully satisfied with their one year's experiences, and 85% of the farmers interviewed said they would recommend the plan to their friends and neighbors.

Cost to the Commission

Someone invariably wants to know what a job is costing, and no doubt Members of this Conference will be interested in knowing what expenditures are involved in our Cooperative Farm-Game Program.

The Commission has allotted $50,000 for each of the two past years, but in neither instance was that amount expended. In fact, $40,000 will cover all expenditures for both years. This, however, does not include a certain amount of overhead and for mapping, which cost is difficult to determine.

I can give you a few per-acre expenditure figures, but want first to say that they represent early efforts and are rapidly changing as experience is gained. All of these per acre average costs are based on the full acreage contained in the respective projects.

The program being new, approximately 18% of the expenditures to date were incurred in securing agreements. Since most of the agreements thus far secured are effective for ten years, the cost may be prorated over that period of years. On that basis, this phase of the program has cost about 1.5c per project-acre per year. We believe the plan will now sell itself at least to a reasonable extent, and that this average will be considerably reduced in the future.

About 66% of the total expenditures to date were incurred in establishing the projects. This includes labor, post, wire, signs, etc. for setting up the refuges and posting safety zones. By pro-rating this over the ten-year period, we arrive at an average cost of 5.5c per project-acre per year. This is higher than expected, and no doubt will be reduced in the future.

Protection last fall, mostly per diem employment of deputies, cost about 12c per project-acre. Whether or not this can be reduced is more or less problematical since protection is of the greatest importance to the success of the plan.

Efforts to improve environmental conditions have been limited up to this time largely to grain food plots. A year from now we shall have much more reliable cost figures, but to date the average has been about 5c per project-acre per year. This brings the total average cost to between 24c and 25c per project-acre per year, which, frankly, we think is too high, and hope to materially reduce it in the future. However, the cost of managing the 700,000 acres, now comprising State Game Lands owned by the Commission and refuges located on other lands, most of which are in the forest country, averages about the same annual figure per acre. It is, therefore, obvious that with any given sum we can assure far more managed refuge and hunting grounds acreage in farm territory than we possibly could by attempting to purchase lands in such territory.

In closing, I should like to make it quite clear that we do not claim our Cooperative Farm-Game Project to be a panacea for all ills affecting the management of farm-game. The plan is an experiment in its infancy, and may prove impractical or perhaps not satisfying to either farmers or sportsmen; or its cost may exceed that which is justified in expending for the results obtained. Its worth and its practicability can only be demonstrated by extended trial.

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*Address at 32nd Annual Convention of the International Association of Game, Fish and Conservation Commissioners, Asheville, N. C., June 20-21, 1938.



An example of clean farming where wildlife has little chance to survive.

BETTER Field Administration...



Potential game protectors must learn all tricks of their trade. Here they are being shown how properly to wing clip pheasants.

By SETH GORDON

WILDLIFE administration, broadly speaking, has advanced very rapidly during the past decade. It has now become a recognized public necessity in all parts of North America, and in public esteem is rapidly taking its proper place alongside of other established public undertakings.

It is very evident, however, that the general public is still perfectly willing to allow those who enjoy the chase or the thrill of the singing reel to continue paying all the freight through hunting and fishing license fees, even though the representatives of those who enjoy other very valuable wildlife benefits may continue to heap reams of free advice, or criticism, upon the desks of policy-making or administrative officials who honestly are trying to do their best to cope with difficult problems.

As to the critics who have nothing constructive to offer, we should bear in mind that nowadays it seems to be the rule to criticize constituted authority, from the local dog catcher to the Chief Executive. We as game and fish administrators must simply resign ourselves to the situation and continue doing our best. If brickbats get under our administrative hides easily, it would be wise to tackle some other field, as we have plenty of thoughtless, though usually well-meaning, critics in the ranks of our own stockholders, the sportsmen.

Only through accomplishment may we succeed in selling our product. We must sell that product (our programs) to the masses in the modern way. Our biggest job right now apparently is to keep up with the progress in our field, to keep in step with the times.

At times we administrators become too well satisfied. We don't want to hear about new ideas, which is frequently the attitude many sportsmen take when we advance new plans. Some of you may recall the examples quoted by Fred Westerman of Michigan at the Mexico City meeting last August, when he said, "We should expect, no doubt, to meet the same sort of reactions made classic by the hill-billy who told the County Agent: 'Nobody kin larn me nuthin' 'bout farmin'. . . . Hell feller, I've wore out three farms a'redy.' And the oldtimer who said: 'Naw—I ain't a-comin' to your meetin' . . . cause I a'redy know how to farm a dam-sight better'n I do farm'."

We wildlife administrators as a group have wasted time and money by continuing to plow soil (methods of operation) which had been worn out long ago, and should have been discarded. And, like the other self-satisfied farmer just mentioned, most of us know

how to do a better job than we are doing, either because we are self-satisfied, or we are not allowed to do so due to lack of funds or public cooperation.

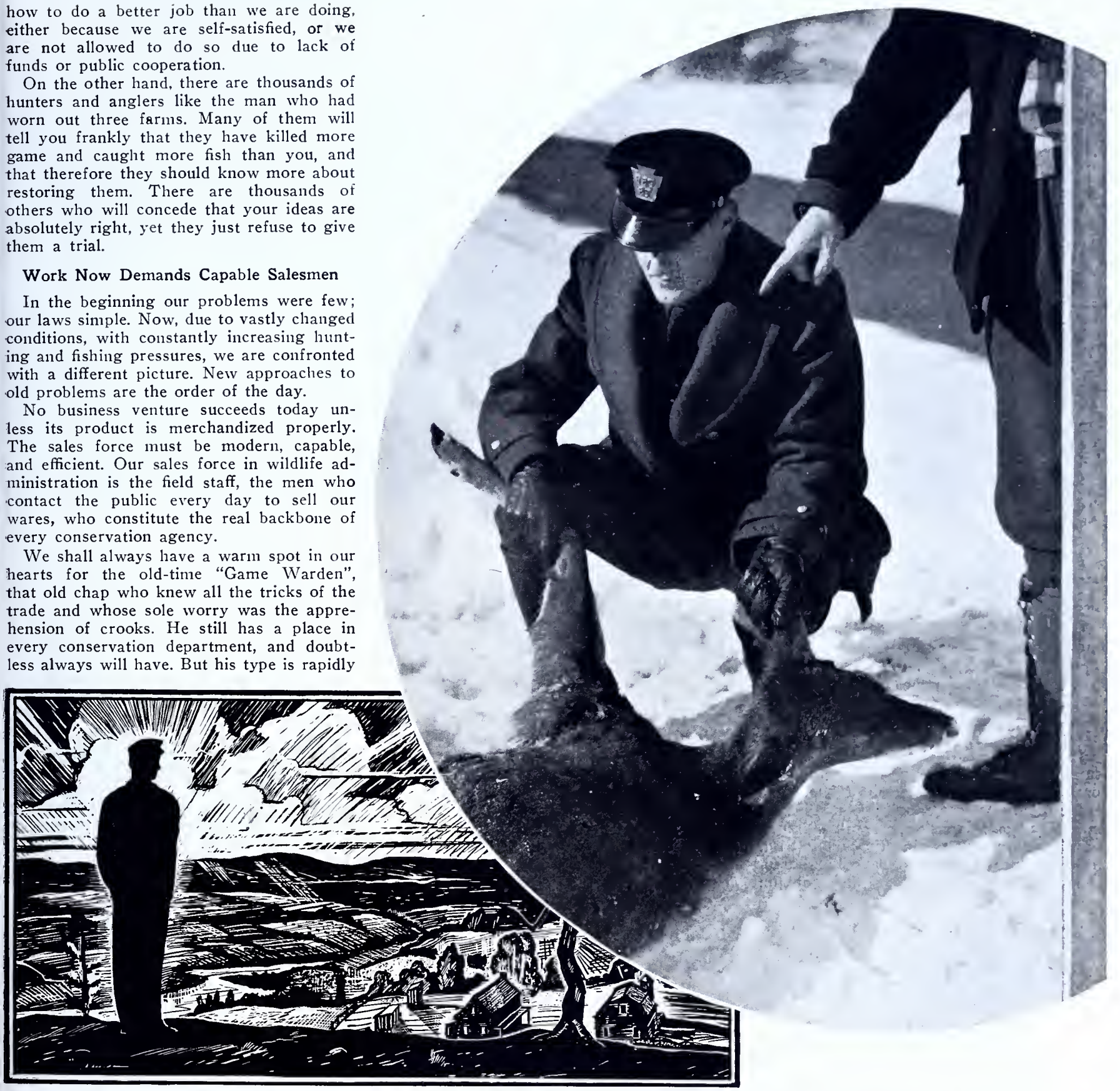
On the other hand, there are thousands of hunters and anglers like the man who had worn out three farms. Many of them will tell you frankly that they have killed more game and caught more fish than you, and that therefore they should know more about restoring them. There are thousands of others who will concede that your ideas are absolutely right, yet they just refuse to give them a trial.

Work Now Demands Capable Salesmen

In the beginning our problems were few; our laws simple. Now, due to vastly changed conditions, with constantly increasing hunting and fishing pressures, we are confronted with a different picture. New approaches to old problems are the order of the day.

No business venture succeeds today unless its product is merchandized properly. The sales force must be modern, capable, and efficient. Our sales force in wildlife administration is the field staff, the men who contact the public every day to sell our wares, who constitute the real backbone of every conservation agency.

We shall always have a warm spot in our hearts for the old-time "Game Warden", that old chap who knew all the tricks of the trade and whose sole worry was the apprehension of crooks. He still has a place in every conservation department, and doubtless always will have. But his type is rapidly being replaced by men who are not only capable in detecting rotten eggs, but who also can tell anyone interested what to do with the good ones.



Student officers are taught practical law enforcement principles in the field by older, experienced game officials.

In the early days almost any chap with a little backbone would do for a field officer. Now the stockholders, the sportsmen, are demanding men who know wildlife problems, men who can present wildlife needs and restoration methods to all classes capably and efficiently. In the States and Provinces today there are hundreds of such men on the daily firing line for the conservation departments, but there are also still entirely too many of the old school who are poorly equipped and never will adjust themselves to present-day needs.

The modern field agent is expected to know his work, to keep up a good appearance, to cover a lot of territory efficiently, to face all kinds of dangers and undergo severe hardships, all for a wage that is rarely in keeping with his responsibility. Many of them are badly handicapped through lack of adequate travel allowances.

Vocational Training Desirable

Since game and fish restoration is now a complex business, with new problems arising daily, there is no reason why we should adhere to obsolete methods. One of the surest roads to success is the development of man-power that will assure the right kind of field administration.

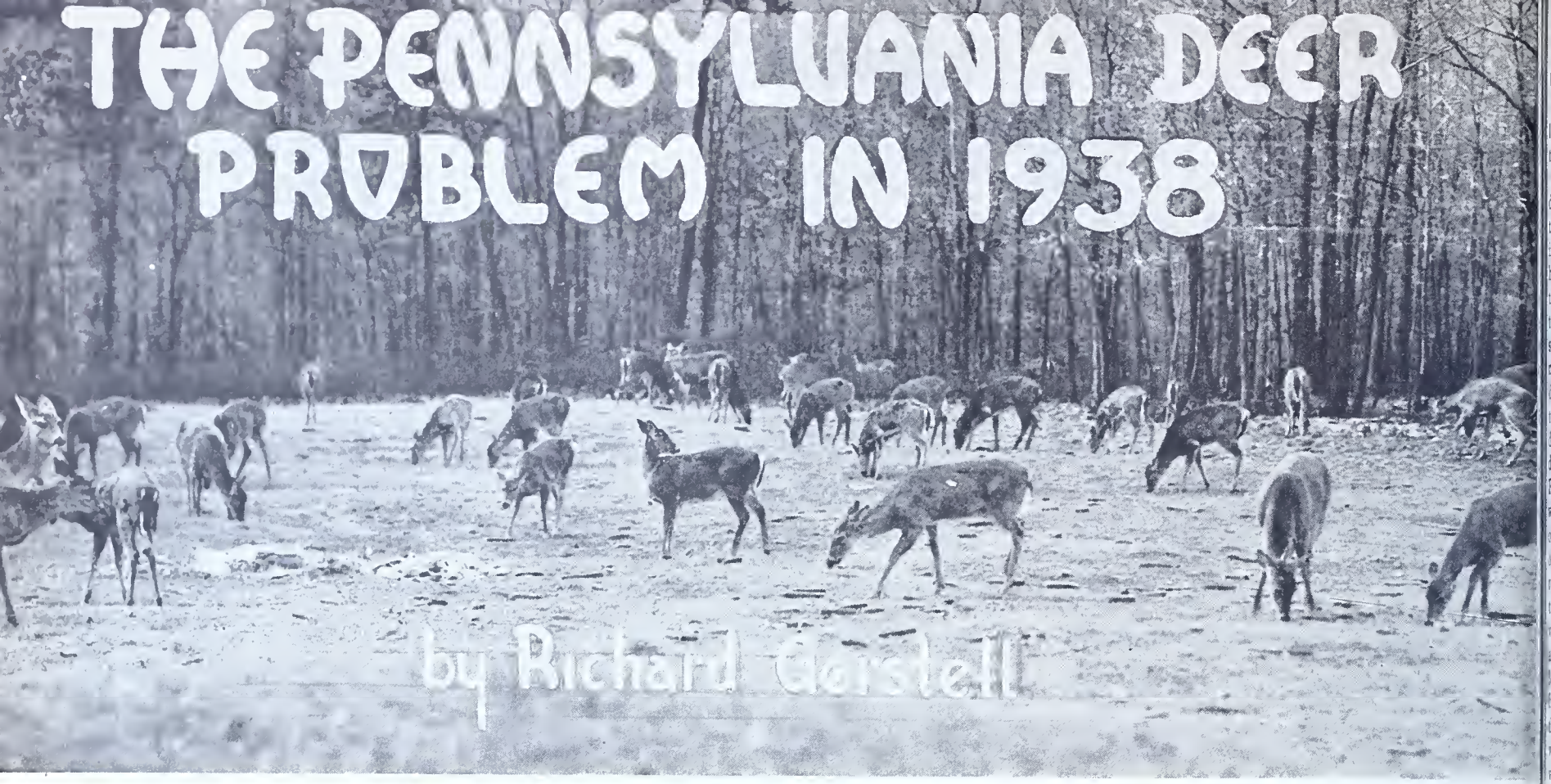
Today a medical student must undergo a long period of preliminary training, pass a rigid test by a State Board of Examiners, then serve as an interne in a recognized hospital, before he is permitted by law to take up the knife and practice surgery.

But what about the average field agent of a game department? He deals with the constitutional rights of our citizens, he prescribes remedies to cure the ills of wildlife administration, he operates alone and unassisted much of the time, and yet how much actual training is exacted before he is put to work?

If it is fundamentally wrong to hand an untrained, inexperienced person the surgeon's knife and expect him to do a successful ma-

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THE PENNSYLVANIA DEER PROBLEM IN 1938



by Richard Garstell

(Editor's Note: This is the first of three installments of a detailed study of the current deer problem. The second and third will appear in the September and October issues of the NEWS.)

THOUGH highly beneficial results have been obtained from certain corrective measures applied during recent years, the Pennsylvania deer problem remains in 1938 as one of wildlife's major "ills". Its diagnosis and cure require both the immediate attention and whole-hearted cooperative efforts of sportsmen and conservation officials.

Resulting primarily from man's relatively small knowledge of the various complex natural phenomena, the blame for the occurrence of the present crisis can be laid to no one group of persons. The result of certain basic research studies recently completed do, however, clearly indicate just why the current problem exists and at the same time point out certain remedial steps which may well lead to its solution.

All those persons even vaguely familiar with the situation realize that by and large the problem has been brought about by the simple fact that during recent years the nutritive requirements of the deer herd have exceeded the food producing capabilities of the deer range.

Thus, the problem is essentially one concerned with food supplies. More specifically, it is primarily **a winter food problem extending from early December to the end of the following March.** With only a limited few widely scattered exceptions, there is at present no supply shortage at other seasons of the year, but **if current conditions are long allowed to stand uncorrected, a year-round problem may quite conceivably come rapidly into existence.**

The winter problem has been brought about by two principal agents. First, and most important, is the fact that during the past twenty years the greater portion of Pennsylvania's true deer range, comprising approximately eight million acres of mountainous woodlands, has in the natural process of plant succession passed from a brush stage forest (Figure I) into vast unbroken tracts of magnificent sapling trees of various species. (Figure II).

That the natural development of the forests is accompanied by an appreciable reduction in the amount of winter deer food annually produced thereon has been quite clearly demonstrated by investigations undertaken and completed during the winter of 1937-1938 (1). For example, sample cuttings taken on a hardwood forest in the brush stage, averaging seven years in age, indicated that such tracts frequently produce in excess of two hundred pounds of potential winter deer food per acre. On the other hand, similar samples taken under identical conditions only a short distance away where the same forest type had advanced to a stage approximating thirty-five years average age showed that areas in the sapling forest stage often produced less than twenty-five pounds of potential winter deer food per acre. Likewise, the former age stand sample yielded twenty-four different species of deer food producing plants, while the latter showed only seven.

The second causative agent is the fact that during those very periods when the forests were passing through stages of development wherein the ground growth naturally tends to become noticeably less abundant, they were also being constantly subjected to an ever-increasing amount of winter browsing by deer. As a general rule, such conditions resulted in an appreciable reduction in the rate of reproduction of certain of the more important deer food producing plants. In some few sections, subjected to excessively heavy winter browsing, one or two of the more important food species were complete-



Figure 1. Hardwood forest in the brush stage. Approximately seven years of age stands such as this frequently show counts in exeess of 30,000 trees and produce over 200 pounds of winter deer food per aere.

y extirpated from the range solely due to the ravenous condition of the herds.

The grave results of the two factors just discussed have been severely aggravated by the very habits of the deer themselves. During the spring, summer and fall, the deer herds are more or less evenly scattered through the woodland areas. In early winter, however, **just when the available food supply enters upon its annual period of minimum abundance,** brought about by the shedding of the leaves and the frost's destruction of the succulent greens annually produced by the various herbacious plants, **the deer tend to congregate in small bands. Furthermore, with the advent of severe weather,** either in the form of extreme cold or snow, but more particularly during combinations of the two, **the groups cease to roam widely through the forests and usually tend to gather together in small mountain valleys where the topography of the land and small patches of evergreen cover doubtless afford the best obtainable protection from the elements. Thus, certain sections of the range are subjected to excessive drains which frequently destroy completely their value as future food supply sources and also result in the ultimate winter-killing of large numbers of deer,** principally fawns born the preceding summer. On the other hand, **during exactly the same critical period other sections of the range,** chiefly in the higher altitudes, **lie absolutely untouched by the deer.**

Detailed field investigations completed several years ago (2) plainly demonstrated the exact extent to which the natural winter concentration of deer at times increases the drain on the food supply in certain localized sections. For example, on one study area (Figure III) comprising 1,035 acres of typical mountain deer range, there was in the early fall a total of approximately 86 deer, all more or less evenly spread over the entire tract. Of them, 15 were legally killed during the open hunting season. Thus, the late December population, which roamed over the whole area in small groups, approximated 70 individuals. This represented an average density of roughly one deer to every 14.5 acres of land. By the middle of February, however, it was found that the entire herd of animals were roaming over a total area comprising only 110 acres of winter range. That portion of the plot represented just 36% of the potential winter range and only 11% of the total summer range of which it was, of course, a part. The winter concentration density was, therefore, one deer to every one and one-half acres of land. In other words, one small portion of the total range under consideration was supporting, **during its period of least productivity,** a deer population density nearly ten times as heavy as that which it had to support during the summer, fall and early winter when its productivity was much greater. The result was over one hundred acres of destroyed winter range and nine winter-killed deer!

The fact that a winter food problem may well exist can readily be visualized if thought be given two additional factors, namely, the total number of deer today alive within the forests of Pennsylvania and the total amount of food required to carry the animals through one winter.

Unfortunately, no deer census technique which can practically be applied over a statewide area has as yet been developed. Thus, it is impossible **accurately** to determine the total number of deer alive within the Commonwealth at the present time. Computations based on sample counts, kills, etc., would seem, however, to indicate that the figure in question certainly exceeds five hundred thousand individuals.

Concerning the amount of food required by one deer during a given period, more definite information is available. A three-year study just concluded (3) established the fact that during the winter months slightly more than two pounds of food material is required each twenty-four hours to maintain in only fair condition 100 pounds of living deer. Since the average Pennsylvania deer weighs very close to 100 pounds

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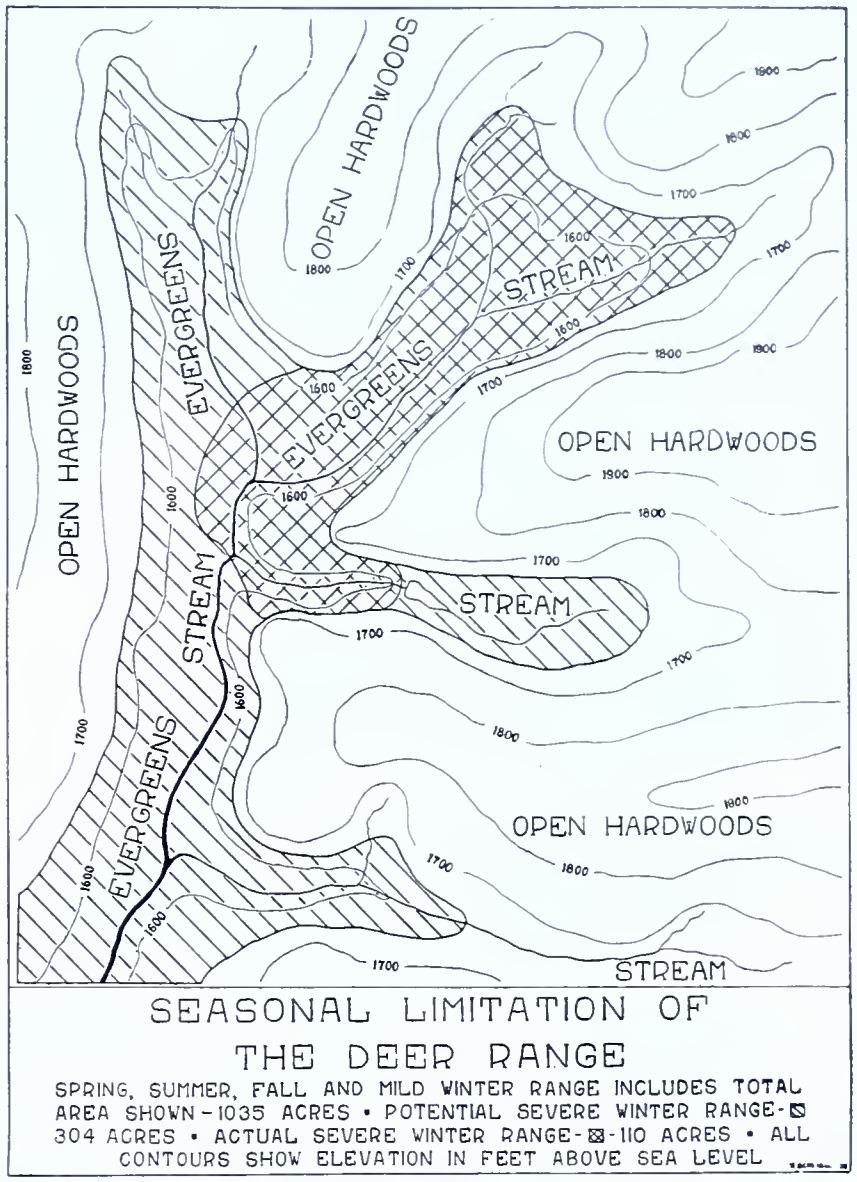


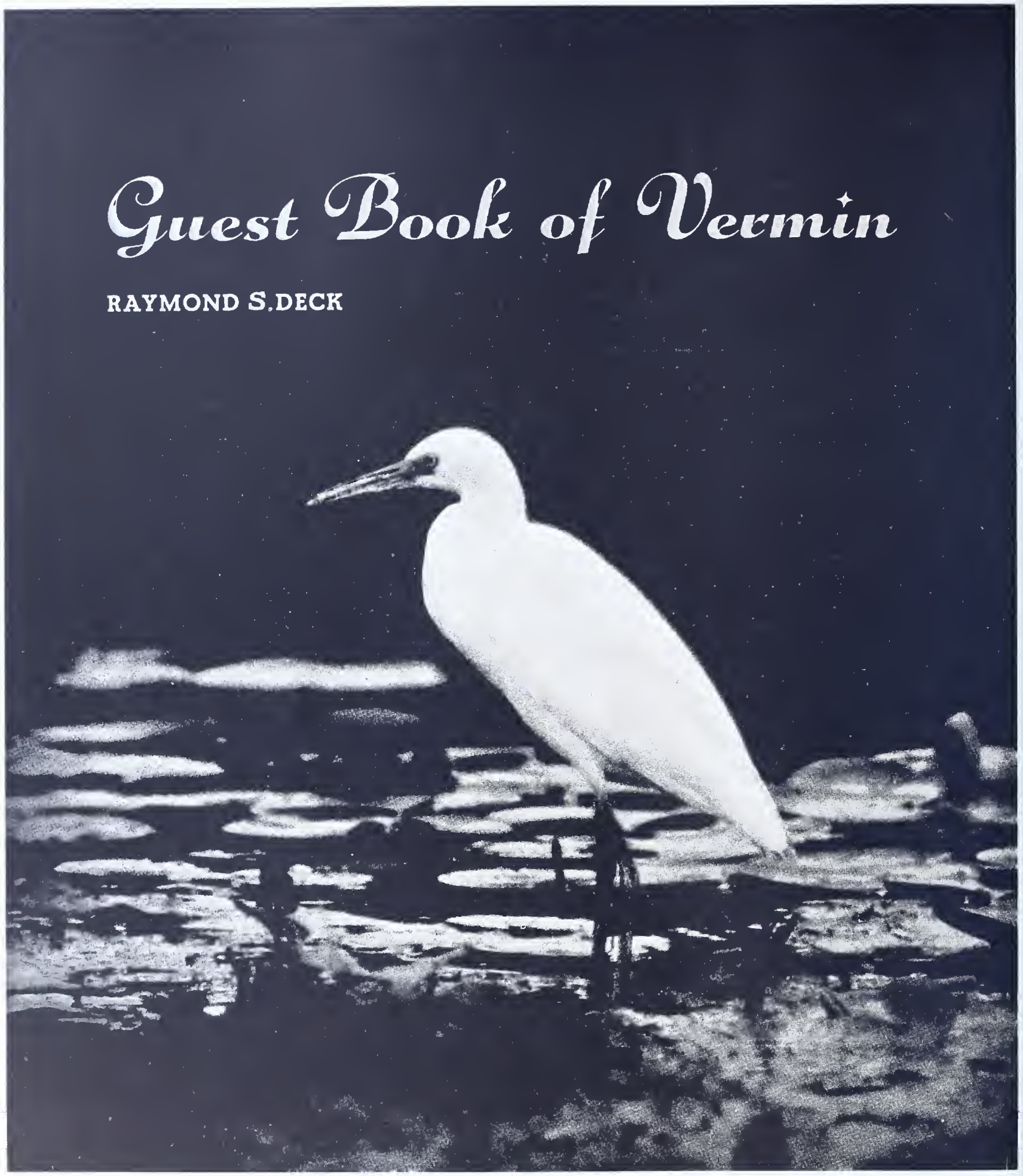
Figure 3.



Figure 2. Hardwood forest roughly thirty-five years old. Note the comparative scarcity of trees and the almost complete absence of available winter deer foods.

Guest Book of Vermin

RAYMOND S. DECK



Little blue heron fishing in a Connecticut pond.

HITTING THE HAPPY MEDIUM IN PREDATOR CONTROL

Reprinted Courtesy Country Life & The Sportsman

PAT! pat! I fancied I could almost hear the footsteps of the fox as it slipped out of the snowy woods. Pat! pat! Red fur glowing in the twilight, great fluffy brush trailing after, the little beast trotted onto the ice-covered pond. Through the frosty window in the cabin I watched it glide in little hurried runs from one clump to another of wild-rice stalks projecting through the ice. It stopped at each of these and sniffed, poked into them hoping that a mouse or sleepy bird might be hiding there.

It was a pretty sight, that little wild dog going about its ancient ways unafraid before my eyes. There is something fine about any

GUEST BOOK of VERMIN

predator canny enough to survive nowadays in close-combed New England. I liked the way the fox whisked across the ice. I considered such things unwillingly as I caught up a gun and slipped off through the winter dusk. Of course I had to kill the creature if I could, for foxes kill grouse and such, and I love my sport with game-birds better than anything else you can name.

I knew just where the proper bear-oak thickets were to screen my stalk, so I managed the little journey undiscovered. While I hid behind a maple trunk the icy wind swirled past me off the pond. I peered cautiously around and saw the fox trotting directly toward me, almost to the edge now of the finger of marsh where I'd thought he'd come off. It was indeed a tense and exciting moment for me.

So long as the wind's at their back wild things will rarely suspect you're anywhere about unless you move perceptibly. I guess that's why the fox hadn't spied me by the time he was twenty feet off. With my face close against the maple's shaggy profile I saw the sharp sparkle of his eyes; every glistening hair, it seemed, of his mask and snow-tipped brush. Then suddenly I slipped up the safety of the gun and stepped into the open. And we were standing face to face—the wily red fox and I—and the bead of a gun was centered on the fox's head. Reynard's fur shone like fox-fire in the gloom. One forepaw was up, I remember, like the foot of a pointing dog. The animal never moved a muscle. He just stood there and looked at me with his muzzle quivering. And I, in turn, looked back at him along the gun-rib.

No—since I feel just the way you do about matters of sportsmanship and wild life—I didn't shoot. We stood looking each other in the eye for all of a minute, I'd think, before the fox got a grip on himself. Then suddenly his head went down and he whirled off through the snowy woods like a streak of light. I watched him go till he'd vanished among the little cedars on the hill—where, I trust, he dined well that night off unwary game. For rarely have I had a more exciting experience in the out-of-doors than that close-up glimpse of a little red fox in the dusk.

No, it's not all of sport to kill. And it isn't all of good hunting either to have pheasants or grouse about in forced abundance at the cost of most other wildlife. I've no doubt you have gunned just as I have in covers too full of game; fished where there were too many fish. When you know for a moral certainty that these pea patches, those frosted fields of lespedeza will each yield a teeming covey of birds, and you can go right on all season shooting limit-bags there, the sport of quail shooting loses some of its mysterious tang. The same thing happens when you're in Maine in a bountiful year of grouse. Every wooded ravine and old abandoned orchard then will explode with a family of thunder-wings, and you don't get the same kick out of hunting that you do in leaner seasons. Too great an abundance of game reduces sport largely to terms of marksmanship (except for watching the dogs work) and marksmanship as a sport by itself had as well have trap-thrown saucers for its targets.

Routine shooting isn't at all the thing that makes hunting the great game it is. It's suspense, the thrill of the unexpected. As often as not it's some unscheduled pantomime that highlights a day afield: a glimpse of a hawk hovering in the sky, then swooping like a shaft of light to make a kill; the random sight of a mink playing through driftwood; the cold, lonesome howl of a wolf in the North-woods.

As I trudged back from my fox-hunt at twilight a few winters back I reflected on things like that. (**Aahr! aahr!** from somewhere among the cedars on the hill I heard a red fox bark.) It seemed odd that sporting tradition should decree death for every creature that might sometime eat a game-bird or fish. For modern men don't hunt for meat—they go to the market. They go afield for the fun of the thing. They like plenty of shots, of course, (though most of these may as well be missed) but mainly they want to see wild things. And strangely, while workaday game may flush and fall and be forgotten, a man remembers for long



Foxes destroy some game, of course, but they are worthy wildlife in th own right. The bulk of their diet consists of fruit, insects, and mice.

his glimpses of nature's drama played by the birds and beasts we've been taught to hate as vermin.

If you and I could have walked together through my Connecticut woodlands on the day of my bout with the fox, you would have told me (or nearly any gunner would have) that I ought to "control" vermin better. Perhaps you wouldn't have liked the fox trails criss-crossing in the snow. Down by the pond-edge there might have been a mink track. And as afternoon waned I'm sure we'd have heard wild laughter from a barred owl in the hemlocks. You would have thought it silly that while I spoke of this place as a happy hunting ground, I still permitted predators about.

You would have thought it even sillier if I had told you of the morning, now three summers gone, when I rowed out on the pond very early to cast a fly or two for bass. A rifle lay on the bottom of the boat against my spying again the giant snapping-turtle which

(Continued on Page 27)

PICTORIA













Left: Bluejays at home. The male is feeding the young while mothe
Raymond Holtzapple's headquarters, Mt. Gretna. Photos by William D
Young Bald Eagles in their nest at Mt. Johnson Island, one of the tw
Krieble.

Center: A study of the Hungarian Partridge in pictures, by Eric J.
teutedly; the hen returns to the brood; the first born peeps from unde
side; the cock helps the hen to dry the chicks; after all the chicks ar

Right: "What's this?" says the Irish Setter. So you want to do the

SECTION













n. These photos where taken in still and motion at Refuge Keeper leding baby cottontail with medicine dropper at Fisher Game Farm. nesting places of these birds in Pennsylvania. Photo by Gordon

, F. R. P. S., M. B. O. U., Crouch End, England. The hen broods con- ther; when all the eggs are hatched the hen calls the cock to her and dried the hen leads them from the nest.

eh! Well, it's okeh by me this hot weather. Photos by William Drake.

OFFICERS OF DIVISION A.



Top Row—Left to right, Joseph A. Leiendecker, Montgomery County; Kenneth Wilson, Berks County; S. Earl Carpenter, Berks County; A. Clinton Ganster, Lancaster County; Warren Fretz, Bucks County; Herbert Diehl, Berks County; Ambrose Gerhart, Montgomery County; Middle Row—Raymond E. Holtzapple, Lebanon County; William A. Moyer, Lehigh County; Peter J. Filkosky, Lancaster County; Lloyd B. Welch, Berks County; Merton J. Golden, Berks County; Morris D. Stewart, Northampton County; Edwin W. Flexer, Bucks County; Bottom Row—Blair J. Davis, Delaware County; Jarvis E. McCannon, Chester County; H. H. Rickert, Bucks County; W. S. Stevens, York County; Mark P. Motter, Dauphin County; J. M. Haverstick, Lancaster County; Supervisor Frank A. Myers, Berks County; Judd C. Turner, Harrisburg, Assistant Executive Director.

CURRENT TOPICS

HUNTERS WHO SHOT MAN IMPRISONED

On June 13, 1938, John H. Spangler, Central City, R. D. No. 1, and Earl E. Spangler, Box 78, Cairnbrook, were sentenced by the Somerset County Court to each serve a term of from two to five years in the county jail and pay a fine of $500.00, as well as the costs of prosecution, after having plead guilty to the charge of killing a human being in mistake for game.

John and Earl Spangler shot and killed Floyd Gibbons of Central City, R. D. No. 1, on May 31st in mistake for a groundhog. The shooting occurred in Quemahoning Township, Somerset County. Gibbons was twenty-four years of age, 5 feet 6 inches tall and unmarried. The hunter who was killed was seated in a grass field looking for groundhogs and it is believed that the Spangler boys mistook the brown cap worn by Gibbons for a groundhog.

The shooting was done at a distance of approximately 43 yards and an examination of the body indicated that Gibbons was shot by both hunters at approximately the same time, Earl Spangler using a 12 gauge shotgun and John Spangler a .22 calibre rifle. There can be little or no excuse for shooting a human being at such close range in mistake for a wild animal, and the fact that the two men responsible are being severely punished is evidence that the enforcement authorities of Pennsylvania are determined to punish those who carelessly shoot at a human being in mistake for a wild creature.

In addition to the above charges, John and Earl Spangler are also being held on charges of involuntary manslaughter. Prosecution in all of these cases was brought by members of the Pennsylvania Motor Police who are cooperating closely with the Game Commission.

CASSLEBERRY CASE BECOMES HISTORY

The final chapter in the now famous Cassleberry case in Sullivan County is written in the Order Session Court of Sullivan County on June 18.

Ralph Cassleberry of Hillsgrove, the principal offender, after having previously declared his innocence, appeared before Judge Little, Susquehanna County, on June 16, and entered plea to the four major charges filed against him. Due to serious causes through his Attorney, Joseph T. Ingham, he requested that sentence be deferred for two days to afford him an opportunity to close his personal business affairs.

The Court granted his request and on June 18, and present Judge Edward Farr sentenced Cassleberry to be committed to the Sullivan Country prison for a period of 439 days, or until such time that he pay the penalty for costs imposed.

The defendant entered pleas of guilty to the following offenses: Killing a deer through the use of artificial light; selling a deer; attempting to kill a second deer; failure to maintain a proper roster.

Representatives of the Commission agreed to nolle pros two minor charges against Cassleberry for, "attempting to kill a second deer by standing on watch, and attempting to kill a rabbit in closed season," when Mr. Cassleberry agreed to pay the costs on these two cases.

The Commission successfully instituted and prosecuted eleven defendants in connection with wholesale game violations in the vicinity of Hillsgrove during the big game season of 1937.

CURRENT TOPICS

While in Sweden with Governor Earle and his official party last December, Colonel Nicholas Biddle, President, Pennsylvania Game Commission, arranged through Major Herbert Jacobsson to exchange a few wild turkeys for some of their fine ringneck and Mongolian pheasants.

Three gobblers and four turkey hens were shipped to Sweden in April while three mutant hens, one mutant cock, four blackneck hens, one blackneck cock, four ringneck hens and one ringneck cock or a total of 14 pheasants were brought back over by Major Jacobsson on the Steamship Kungsholm, which conveyed the Crown Prince and Princess to Philadelphia in June, and were sent to the Fisher Game Farm at Schwenksville.

Through this exchange a mutual feeling of fellowship has been established between the hunters of this Commonwealth and the Kingdom of Sweden. At the same time, Sweden is attempting to establish the wild turkey as a game bird while Pennsylvania has obtained some very desirable new pheasant blood for its game farms.

Major Jacobsson reported that when he left Sweden the middle of June twenty turkey chicks had hatched and were doing well.

During the fiscal year which ended May 31, 1938, 30,914.5 acres of good game territory were acquired. The land purchase program was started in 1920 and during the past eighteen years title has been secured to the surprisingly large aggregate area of 583,385 acres. This acreage is contained in 127 blocks of State Game Lands, distributed through 55 of the 67 counties of the State. An additional 24,000 acres are at this time under contract for purchase. A total of $2,693,061 has been spent on the land purchase program since 1920. This includes $2,143,570 paid a thousand or more grantors for the 583,358 acres acquired, and for title examining, conveying title and boundary line surveys approximately $549,941. The $2,693,061 expended represents a capital investment, and the lands are a valuable asset to the Commonwealth's 600,000 sportsmen.

Deer fawns and other young wild creatures found in the woods must positively be left alone, and not taken home. For years the Commission grappled with this problem but now, under the revised law, it is in a position to punish those who ignore its repeated warnings. In ninety-nine cases out of a hundred the creatures found are not "lost," as their rescuers believe. To the contrary, the parent animals have only been frightened away by the approach of human beings and will return shortly after they leave.

Every year hundreds of fawn deer and other young creatures are picked up by well-meaning, but thoughtless, individuals, thereby imposing a needless and wasteful burden upon the officials of the Commission in effecting a proper disposition of the baby creatures. Most of them must be raised on the bottle, and many times they die. And when so raised they are rarely fit to be released in the wild again.

If anyone finds the young of a protected wild creature which he is reasonably positive has been deserted, he should report the incident to the local Game Protector, and allow him to dispose of it. If it is carried home it may mean paying $100 fine.

Notwithstanding the fact that very few prosecutions were brought for violating new features of the Game Law, more game fines were collected during the past fiscal year, June 1, 1937 to May 31, 1938 than since 1931. Over $64,000 was collected during this period due to intensified law enforcement campaigns conducted by Game Protectors in the field.

The past year resulted in the breaking up of some notorious game killing bands which had been evading the law for many years. The dragnet also caught a lot of minor violations during the first few days of the small and large game seasons through the establishment of car searching campaigns which netted some excellent results in quite a few sections of the state.

Fines collected previously are as follows: 1930, $96,251; 1931, $58,483; 1932, $44,434; 1933, $38,938; 1934, $40,756; 1938, $60,209; 1936, $59,365.

DEER vs. AUTO

A Lakeside man struck a deer near Hazleton when it jumped in front of his automobile. The animal was apparently uninjured, however, for it ran back into the woods.

The carcass of a buck deer was found dead on the Sunbury-Shamokin highway. The deer had apparently been killed by an automobile.

A buck deer roamed out of the woods into suburban Sheffield's business district and caused a miniature riot before he could be captured. The animal vaulted a four-foot railing and landed in the basement of a barber shop breaking a leg. Eluding a nearby storekeeper, the deer raced down the main street and plunged through a window of a furniture factory. There he was shot.

A male deer was fatally injured when it ran in the path of an automobile near Dillsburg, York County. The driver of the car said the impact knocked a headlight from his car.

A spike buck weighing about 80 lbs. was fatally injured when struck by an auto driven by R. Strickler, Reinholds, R. D. 1.

A large buck crashed into the rear of a car operated by Patrolman Ross Mead of Corry, Pa.

A fawn leaped through the glass door of a Pitcairn jewelry store. With a bound or two it smashed through a glass partition into a display window. The bewildered animal then leaped through a door leading to the cellar. Police Chief W. C. McDowell. Patrolman Frank Schmeltz, R. I. Crowell and F. R. Bainter captured the animal, tied its legs and released it on the 47-acre tract of the Pitcairn Sportsman's Club.



Despite repeated warnings people continue to pick up "lost" fawns. Here are some of the thirty-five "orphans" turned over to the Loyalsock Game Farm, Lycoming County, for nursing.

CURRENT TOPICS



WPA workers building a worm fence on State Game Lands. Large fields are broken up with these fences and game food is planted along them.

Stream purification marches on. Prompted by recent state legislation preventing the pollution of streams, the University of Pittsburgh School of Engineering is cooperating with the summer session to offer a special course in industrial wastes and utilization.

The course, designed for chemists, physicists, civil, mechanical and industrial engineers, is primarily for operating men in industrial plants and for practicing engineers.

Taught by Prof. H. C. Bashioum, head of the department of practical engineering, the course will be conducted evenings, from 6:30 to 9:00, on Mondays and Wednesdays during the six-weeks' term, beginning tomorrow and ending July 13.

Treatment of methods of handling community wastes; sewage and garbage; industrial wastes from steel mills, petroleum refineries and coke by-product operations will be stressed in the course.

That Hungarian Partridges prefer natural growth such as is found along roadsides, in fence rows, and other waste spots to hayfields has been proven on a wildlife research area in Wisconsin according to Arthur S. Hawkins of the University of Wisconsin.

In a very interesting paper on nesting studies of the Hun, published in the transactions of the Second North American Wildlife Conference, Mr. Hawkins reports that the data they acquired on the test area in 1935 and 1936 showed that less than 12 per cent of the nests were in hayfields despite the fact that the hayfield area was over seven times that grown up to natural cover.

Later they divided a non-related 60 square mile tract into eight acres each of which differed topographically from the others. Three of them had hay acreages similar to that in the test area, but their available nesting sites differed in that they had distinctly less natural cover. A comparison of hayfield nesting densities between the experimental project and the non-related three showed 92 acres per nest at the former and 23 acres per nest as the acreage for the latter. Since the partridge population of the four did not differ markedly, their conclusion was that only when lacking suitable natural cover had the birds resorted to hayfields.

TWO NEW BULLETINS

Wildlife in the Farm Program, (free); by James N. Morton, showing simple methods by which farmers and sportsmen can improve wildlife habitat on agricultural lands.

Pennsylvania Bird-Life, (price 10c); a bulletin designed to further the study and appreciation of our feathered friends by Leo A. Luttringer, Jr., available August 15.

Anyone wanting copies of the above may secure them by writing the Pennsylvania Game Commission, Harrisburg, Pa.

SHOT A LARGE FOX

About 5:30 A. M., June 10, on the farm of Howard O. Blocher, in Tionesta Township, Forest County, a white Leghorn hen began to fly and cackle as if she was trying to escape some danger down along the spring run, and the other hens began to vacate the barnyard as quickly as possible. In a short time a young male red fox was seen jumping along after a good fat hen that was doing some fast running. Howard leveled a twelve gauge shot gun towards the swiftly moving fox and succeeded in putting part of a load of number five shot into the animal. It weighed eight pounds and eight ounces.

A GOOD FRIEND

Mr. O. A. Zuercher, of Canada, has been a good friend of the Game Commission for many years. He is tremendously interested in Game News and during the past few years sent us over 100 Canadian subscriptions.

Sometime ago he presented to the Pennsylvania Game Commission his World's Champion hen pheasant, known as Lady Grimm and for later delivery he is presenting her mate, Lord Grimm. These famous birds are well known throughout the land and Lady Grimm broke the egg laying record for Ringneck pheasants, by laying 149 eggs during her record year. Her first egg was layed April 14, 1936 and her last, September 3, 1936.

Mr. Zuercher has also presented to the Commission, in the past, settings of his specially bred pheasants, including the Mongolian and Melanistic Mutant for cooperative experimental work between the Commission and himself, and has offered us considerable additional cooperation with experimental feeding, housing, etc., of various game birds. He is probably the outstanding leader in game restoration work in Canada, and his article entitled, "Pheasants in Canada" has enjoyed a tremendous circulation, both in the Dominion and in the United States.

Mr. Zuercher was born in Phoenixville, Pennsylvania, in 1884, and saw a great deal of war service. He was with the First Canadian Motor Machine Gun Brigade in active service, and has been wounded many times. While born in Phoenixville in 1884, he moved to Canada in 1889, where he received his education and has remained since, except during his Military Service, and several trips around the World.

The appointment of Ross L. Leffler, member of the Game Commission from McKeesport, as director of industrial relations for Carnegie-Illinois Steel Corporation was announced recently by corporation officials.

Mr. Leffler, former manager of industrial relations, enters his augmented position with a record of 28 years' service with Carnegie-Illinois and its predecessor concern, the Carnegie Steel Company. He entered the latter organization in 1910 as a time taker at the Duquesne Works.

After serving in several positions at Duquesne, including rolling mill superintendent and superintendent of personnel, Mr. Leffler was appointed manager of industrial relations in October, 1935. In his new position, the McKeesporter will maintain his headquarters in Pittsburgh.

BEARS ENJOY SPRING STROLL NEAR DRIFTING

Bears were out in force enjoying the spring air near Drifting, Pa. Three large fellows ambled unconcernedly across the highway and rummaged in the laurel at the foot of Moshannon mountain. WPA workmen, who saw the bears, said their coats were in excellent condition.

NOTES FROM THE FIELD

"On May 17th two deer were hit by a Greyhound Bus on Route No. 30; one of them was killed."—Refuge Keeper William Matthews, Westmoreland County.

"My NYA crew planted on Game Lands this spring 325 Asiatic chestnut seedlings, 357 persimmon, 355 dogwood, 600 grape seedlings, 1,665 evergreens, 4,000 grape cuttings, 64 blue plum, and 8 sour cherries.

"On June 6th, while NYA boys and I were working on Auxiliary No. 97 near Mundys Corners, we saw 10 young grouse only a day or two old.

"Was talking with one of the prop cutters on Game Lands No. 26 yesterday and he told me that a couple of days ago he found a grouse nest with twelve eggs in it and the following day he went by the nest again and it had only ten eggs in it. He said he looked for shells but could not find any and when he started away from the nest he saw a large blacksnake lying close by which had just eaten the two eggs, 'But don't worry,' he said, 'It will never eat any more.'"—Refuge Keeper Bruce Catherman, Cambria County.

"For the past three years, from November to May, I have had many Purple Finches come to my banding station at Ardmore. Usually they come to a seckelpear tree about ten feet from the house, on one of the lower branches of which I have a small feeder where I keep sunflower seeds. Underneath the tree I have a pull-string ground trap, in which I capture birds for banding. So far this year I have captured and banded over a hundred Purple Finches.

"The birds, waiting for an opportunity to get at the feeder while another is feeding, will very often eat the buds and blossoms, and appear to be destroying a large amount of fruit.

"However, while they have been and still are being accused of doing great damage to fruit trees in different parts of the country, my own experience would indicate that the accusation is unwarranted.

"I have found, during the past three years, that the pruning the birds give the tree is decidedly beneficial. During years the birds were present, I have noted a marked improvement in the amount of fruit on the tree, and last year I not only had the largest number of pears, but a great many were double the size and of better flavor than the normal seckel pear."—Horace Groskin, Ardmore, Pa.

"John Sellers, a friend of mine in Bedford Township, Bedford County, while mowing alfalfa hay which was about 3 or 3½ feet high and quite thick on the ground looked down at the cutting bar of the mower and to his surprise saw a small fawn. Stopping quickly to examine the animal he found that there was not a cut or even a scratch on it. He said he did not know how far the fawn had been hauled in this manner. He carried it to a nearby woods and its bleating soon brought its mother to its rescue.

"The remarkable thing about it is that Mr. Sellers did not know how far the deer had ridden in this manner, and how it escaped being badly cut by the mower. Apparently there was a thick bunch of the alfalfa on the cutting bar on which the fawn was lying which protected it from being cut."—Harold E. Russell, Refuge Keeper, Huntingdon County.

"While laying out some work for the WPA men on Game Lands No. 104 in Bedford County on May 27, I ran across two rattlesnakes and a blacksnake. The first snake the WPA foreman noticed along the side of the trail on which we were walking. We took that snake alive by looping it behind the head with a piece of rawhide that was attached to a stick. The blacksnake we immediately killed. A little later I walked onto another rattler lying on the sunny side of Bear Wallow Mountain. It was 57 inches long and had 10 rattles. Upon examining the stomach contents of the snake I found a small squirrel and some material I could not identify."—Albert Bachman, Refuge Keeper, Bedford County.

While working at Douglasville, H. J. Moyer, of Leesport, observed a crow suddenly alight on the ground. When Corvus took off he had a small rabbit in his claws. Mr. Moyer succeeded in causing the crow to drop the rabbit by throwing sticks and stones. After the crow disappeared the old mother rabbit arrived and took charge of her young one.

"I recently heard of an interesting case of a ringneck hen nesting between the rails of a trolley track. A car passes this point about every 20 minutes, but the hen never moves from the nest and the car passes directly over her. I checked on this information and found it to be correct. The nest was located a short distance out of Quakertown between the rails of the Lehigh Valley Transit Co."—E. W. Flexer, Traveling Game Protector, Bucks County.

William E. Johnson, Sunbury, was motoring near Weikert recently when he encountered a six-foot blacksnake coiled around a young buck deer.

Halting his car, Johnson battled the snake until it released the buck, which was lying apparently dead along the road. The snake finally crawled into the woods.

Johnson picked up what he believed was the carcass of the young deer, placed it in his car and started toward Sunbury to report to Game Protector Bruce Yeager. As he proceeded along the highway the animal suddenly revived and created furor in the rear of Johnson's car.

It was with difficulty that he succeeded in keeping the deer from battering out the windows of the car until he arrived at the home of Yeager, who assisted in overpowering and removing the deer from the car.

"I received a report of a beaver being down an old well on an abandoned farm below Slate Run. Upon investigation I found that the well had at one time been covered with old pine boards. The beaver's weight broke the rotten boards and dropped him down into the well. He evidently had been confined there for quite some time because when I arrived I threw down a small piece of wood which he seized and began to chew. I managed with great difficulty to lasso him and remove him from his prison, later releasing him in Pine Creek."—Refuge Keeper Jesse Newcomer, Lycoming County.

"Reports have come to me from Williamsburg of hundreds of song and insectivorous birds being killed during the migration months of April and May by flying against airplane beacon lights on the landing field in that vicinity. During other months of the year very few birds are killed."—Traveling Game Protector, James L. Latimer, Blair County.

"A fine buck deer, with eight points already showing in his 'velvet' rack, failed to yield the right-of-way to a fast train on the Pennsylvania line near Larimer recently. The Westmoreland Children's Aid Society at Greensburg benefited thereby.

"A badly injured doe was found lying along U. S. Route 119 near the intersection of the Luxor road, about 3½ miles northeast of Greensburg. She was so badly injured that it was necessary to kill her. In this case the Westmoreland County Home was the recipient.

"These latest casualties brought the total of deer killed by railway and highway accidents in Westmoreland County to twenty-two for the year 1938. Seventeen of these animals were does and five of them bucks. It is interesting to note, in the light of the present controversy over the deer situation, that just half of these accidents occurred well away from the extensive forest areas which are proper 'deer territory,' indicating that—for the number of animals on a given area—they are a much greater menace on the highway when they are away from their normal range. There is no record of the amount of damage caused by these accidents, but it must be considerable."—John B. Miller, District Game Protector, Westmoreland County.

Refuge Keeper John Hopkins, Warren County, reports that up to June 5 no fawns were picked up in Warren County and brought to him. He has, however, received four which were picked up in Forest and Venango Counties. He deplores the practice and cites as an example an experience which he had last spring when he found a white fawn mired in a swamp. He took the fawn from the swamp to a brook, washed it clean of mud, and returned it to the vicinity where it was mired. He watched it carefully, and in about twenty minutes its mother returned and took care of it. He reported that he saw the fawn, which is now a yearling, on the evening of July 4.

SCATTER LOADS

MASTER GUNSMITH

Seeks Bullet Speed of 10,000 Feet a Second

By G. H. Dacy

James V. Howe, Washington, D. C., one of the world's best gunsmiths, seeks to perfect a small bore rifle which will belch bullets that will travel to their marks at the prodigious speed of 10,000 feet per second. The record bullet speed of small arms and sporting rifles at present is 4,600 feet a second.

Howe's experience and trade background qualifies him for his record task. During the World War he was in charge of experimental small arms research at the Frankfort Arsenal, Philadelphia, where he supervised all tests of 50 caliber machine and anti-aircraft guns. Many of his inventions are used by foreign nations as well as the United States.

While in charge of Henry Ford's collection of 3,500 historic firearms Mr. Howe made a record drill one-sixteenth of an inch in diameter and employed it successfully in making the smallest boring in history through a block of solid steel three feet thick. That bore when completed was a midget likeness of one which he eventually hopes to make in a revolutionary rifle whose bullet velocity will be 2 1/6 times faster than the fastest previously perfected.

It was to satisfy Mr. Ford's desire to do what his shop foremen and gauge makers termed impossible that Howe made the record boring, a feat which cost $30,000. Special steel was imported from England, an ingenious rack was contrived both to hold the heavy steel block and also to rotate it at a speed of 2,400 turns to the minute against the rigid little drill. The drill itself no larger than the lead in an ordinary lead pencil was equipped with a central aperture through which oil was fed as a lubricant during the drilling. That tiny hole in the drill also served as a chip chamber through which the filings were voided. The block of steel rotated continuously for 168 hours against the drill before the boring was finally completed. Mr. Ford had the laugh on his gauge makers; Howe had a rifle bore in a mighty block of steel but lacked ammunition and the means of firing record bullets from that straight and concentric aperture.

About a year ago a book in two volumes entitled "The Modern Gunsmith" was published; James V. Howe is its author. Sportsmen and experts on ballistics have welcomed the work as authoritative; it reveals for the first time former secrets of gunmaking. Jim Howe is now busy writing another book on gunsmithing. It is going to cost over $100,000 to finance the experimentation which ultimately may produce the new high power, small bore record rifle which he hopes to perfect. The leading American gunsmith has turned author in effort to raise that stake expeditiously so that he may begin his greatest experiment.



Rabbit with two tails killed last season by D. Webster Snyder, Reading.

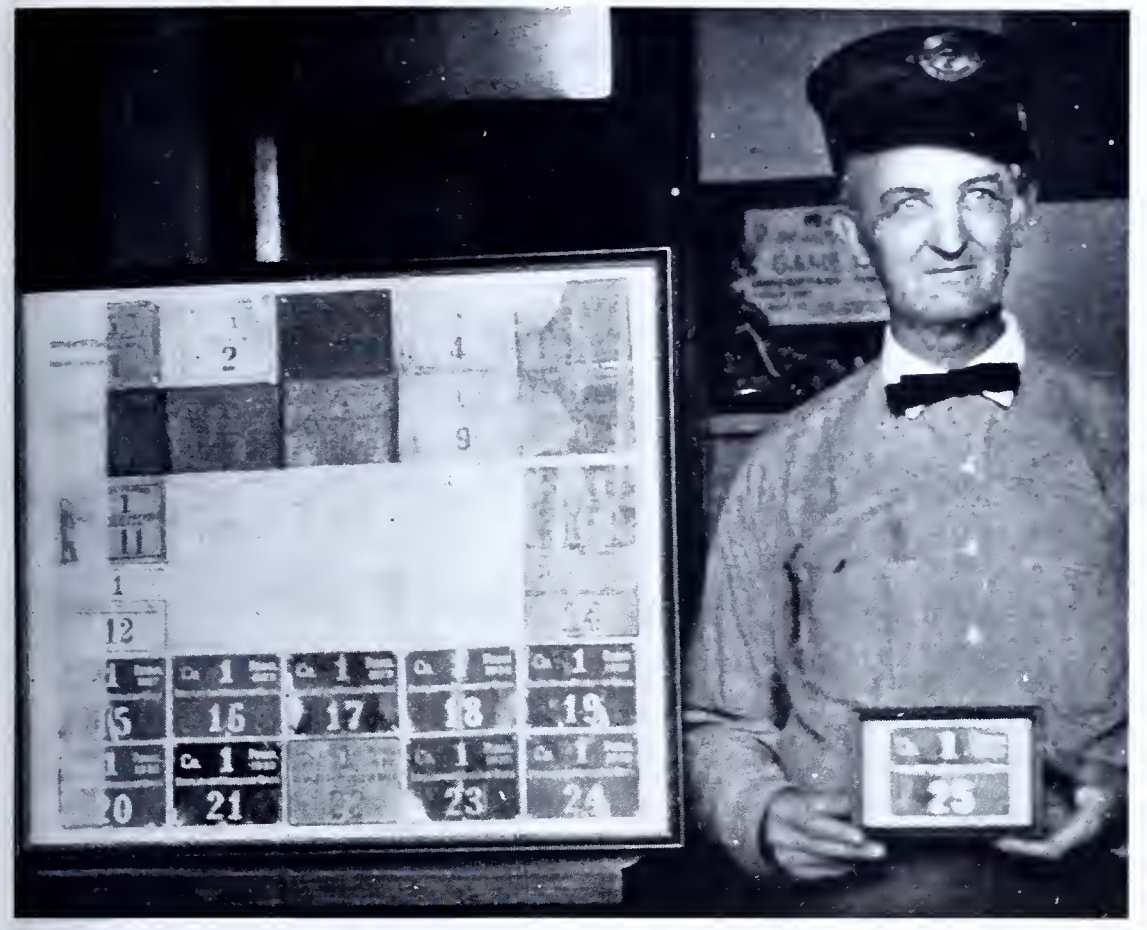


A groundhog shinnies up a tree. Chas. T Hallier and Andrew Sidehamer, Jr., Deputy Game Protectors, Westmoreland County, in foreground.

Alaska will soon become in effect a sanctuary for one of the North American mammals threatened with extinction. New hunting and trapping regulations published April 26, provide a closed season throughout the Territory on the marten. The regulations signed by Secretary of Agriculture Wallace take effect ninety days after publication. The U. S. Biological Survey has advocated a five year breathing spell for martens throughout the United States in order to prevent their extermination.

The U. S. Biological Survey reports the arrest of 13 Californians for hunting duck over baited club ponds last season. Additional charges of hunting without duck stamps, and hunting with unplugged guns were lodged. Fines totaling $325 were collected.

Additional penalties were collected from two Illinois men for illegally transporting beaver pelts from Minnesota and Illinois to Missouri.



F. Mark Bream, Postman, of Gettysburg, has preserved his hunting license tags ever since the first one came out in 1913. Note how they run in sequence on the above picture.

The Conservation Commission of West Virginia paid a bounty of $1.00 each for 1,167 Grey Foxes killed during the two-month period ending May 15.

Earle Hartwell in the June issue of the American Rifleman claims, after making many tests, that the high-speed, hollow-point cartridge is unquestionably the one to choose for squirrels and all other small game for which a .22 Long-Rifle cartridge may be recommended.

Robbing beehives is a favorite trick of skunks. The creatures thump their feet at the entrance to the hive and when the bees come out the skunks eat them.

Birds are not the delicate things most people believe them to be. Their muscular power, ounce for ounce of weight, is computed to be several times that of any other living creature.

W. F. Volkenant, a bird lover from Minneapolis, spends his winters making bird houses. In the spring he distributes them free to school children and other interested parties. To date he has made and given away over 2,500 well-made houses.

Birds are a little grouchy before breakfast says one government scientist from observations made in his back yard.

An elephant has to sway its whole body in order to look around, because it cannot turn its head much.

The most disastrous forest fire in the history of the United States occurred in Wisconsin during October, 1871. Known as the Peshtigo fire, it took a total of 1,500 human lives and destroyed over 1,300,000 acres of standing timber.

The first letter ever received by any Conservation Division complaining that fish are too large to catch, was received by Ohio officials. The complainant said: "There is a large muskellunge in a hole above the Walhonding River just above the Roscoe bridge that drives all the other fish out, and is too large to catch. He is fully six feet long. Please send someone to take him out."

Try a little castor oil and camphor rubbed into the skin as a protection against black gnats and mosquitoes.

Starlings have spread westward in the United States until they now apparently breed in eastern Texas.

An ornithologist points out that some small birds like the humming bird are quick tempered; while bigger birds, such as the flicker, are obvious cowards.

More than thirty different disease germs and parasitic worms can be carried by flies.

Birds are said to have three kinds of language: alarm notes, call notes, and songs made of call notes joined together.

Members of the U. S. Biological Survey are conducting field studies of the Mourning Dove with a view of adding to the available records on its life history.



"I didn't prepare any dinner. I thought I'd wait until you got home and cook the skeets you were shooting!"

WITH THE CLUBS



Record buck killed by A. W. Sherrod of Cleveland, near Wolf Run, Forest County. It had 10 points.

The Algoma Wolf Club will enter some of its hounds in the field trials of the U. S. National Fox Hunters' Association, near Lexington, Kentucky, next fall. The dogs will be chaperoned by some of the more ardent dogmen of the club. Some of these (we are referring to the dogs only) have pedigrees as long as your arm. Their progenitors came from Kentucky many years ago, where they keep dog books tracing the ancestry of hounds back for 100 years. Practically every Kentucky man owns one of these fine animals, and seldom confines himself to just one. A Lexington man has 60, so that he is practically assured of some kind of recreation or exercise every day. We hear that Editor S. L. Woolridge of "The Chase," Lexington, Ky., the official organ of U. S. ounds, has a pack as numerous as the sands of the sea, or thereabouts.

The Bucks-Montgomery County Coon Hunters' Club recently purchased eight raccoons for release in that section.

NEW CLUBS

Peters Creek Valley Sportsmen's Association—Secretary, James Ritchie, Finleyville, Pa.

The Lancaster County Bird Club volunteered to recompense farmers for the loss of poultry and livestock taken by eagles provided the farmers refrain from killing the eagles.

The action in the form of a resolution was taken by the club at the suggestion of Prof. H. H. Beck, Audubon Society representative, who expressed extreme regret at the recent killing of a bald eagle in East Drumore township, where it had committed depredations on a farmer's barnyard stock.

It was assumed the slain eagle was from the Mt. Johnson island sanctuary, one of the only two nesting places for eagles in Pennsylvania.

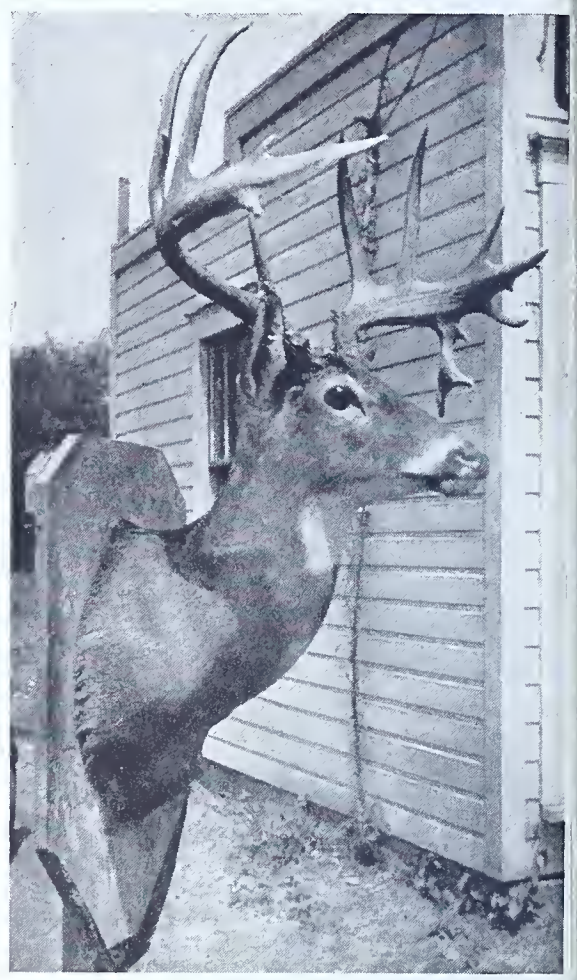
The Cambria County Game Protective Association will hold a field trial for coon dogs at Gleason fields, south of Portage, on July 31. Many entries from Pennsylvania, Ohio and West Virginia are expected to compete. Their last event was won by a Cleveland, Ohio dog.

Refuge Keeper Harold Harter, Pike County, reports the following:

"While trapping beaver in Monroe County with Game Protector Frantz we caught one young and one large beaver out of the same dam. We put the two beavers in a shipping crate in order to transport them to a new location. Just as soon as the two beavers were in the same crate the old beaver killed the young.



Another beauty killed by Chas. J. Bean, New Castle. All trophies were bagged last season.



Record buck killed near Wapwallopen. Taxidermist J. M. Koval said it had 22 points, a spread of 29½ inches, and weighed 142 lbs.

The Trafford Sportsmen's Club will hold a Coon Dog Field Trial August 21, 1938 on their club grounds at Trafford, Pa.

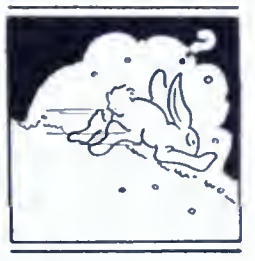
The Consolidated Sportsmen of Lycoming County, boasting a membership of over 2,000, has been carrying on some outstanding conservation work in that part of the State. At the present time it owns and operates its own game farm from which it stocks from 500 to 900 ringnecks annually. It also operates its own fish nursery from which it stocks between 10,000 and 15,000 legal sized trout every year in Lycoming County streams. It has carried on active and successful fights for pure streams in that section, has promoted the establishment of many auxiliary game refuges, has donated prizes for local conservation programs, and in many other ways has helped to stimulate interest in wildlife.

Membership in the association costs $1.00, the distribution of which is as follows: 23½% to increase capacity of Trout Pond Park; 16% to produce 11,000 Fingerling Trout; 21% to improve game farm and produce 510 ringneck pheasants; 14% cost of picnic; 8% stationery, stamps, etc.; 6% administration; 3½% education; 2½% prizes; 2¼% miscellaneous; 1¾% fish distribution; 1½% legal costs.

(Continued on Page 30)



SPORTSMEN'S QUERIES



By CHAS. F. STAMBAUGH

GROUNDHOG HUNTING — CLOSING HOUR

Q. Are the hours for hunting woodchucks (groundhogs) the same as for other small game? I ask this because woodchucks are hunted in a different way.

C.S.R.—Topton, Pa.

A. The official hours for hunting groundhogs are 7:00 A. M. to 5:00 P. M., Eastern Standard Time. We realize that some of the best groundhog hunting is enjoyed after 5:00 o'clock, but this closing hour was fixed by the Legislature, and the Game Commission has no authority to change it. Any change in the law in that respect must be done by the Legislature in regular session.

* * *

USE OF .22 RIFLES FOR DEER HUNTING

Q. I have a Savage .22 Hi-Power which shoots a 70 grain bullet, and I am advised that a law has been passed which makes it unlawful for me to use it for deer hunting. Can you give me any information?

B.E.B.—Erie, Pa.

A. Apparently you have been misinformed. There is nothing in the present hunting regulations to prohibit the use of a .22 high-powered rifle, or any .22 rifle (except an automatic), for deer or other hunting in season. There is a provision in the new 1937 Game Law requiring farmers having deer damage to use a rifle not smaller than .25 calibre to kill the destructive deer, but this does not apply to hunters. Personally, we strongly advise the use of a rifle larger than a .22 for big game hunting, as a deer or bear is liable to continue in flight with a bullet of that size in it, even though the animal may be mortally wounded.

* * *

USE OF DOGS TO HUNT GROUNDHOGS

Q. Is it lawful to hunt groundhogs with a dog?

F.P.—Aliquippa, Pa.

A. No, not during the period from April 1st to August 19th, inclusive; but dogs may be used on and after August 20th. The open season on groundhogs is November 1st to September 15th.

* * *

HUNTING GROUNDHOGS ON A 1937 LICENSE

Q. I would like to go groundhog hunting and have no 1937 hunting license. I do not like to pay $2.00 for a license for this short period. Could I in any way get a 1938 license now (June) or a receipt for same, by paying $2.00; the license could be sent later?

P.S.—Allentown, Pa.

A. Sorry, but you cannot purchase a 1938 license now. Inasmuch as you do not have a 1937 license, it will be necessary for you to purchase one at a cost of $2.00 to hunt groundhogs from now until August 31, 1938. Your offer to deposit $2.00 for a 1938 license cannot be accepted by an agent, for the reason that the 1937-1938 licenses are on sale and are good for hunting birds and animals in season until August 31, 1938, after which a new license will, of course, be required. You must not hunt groundhogs without a proper license.

* * *

DIGGING OUT GROUNDHOGS

Q. Is it legal to dig out groundhogs, with permission of the landowner?

N.P.—Grindstone, Pa.

A. No. The new Game Law provides that only persons actually residing on cultivated lands may dig out woodchucks. This means that a farmer does not have the right to authorize persons to dig these animals on his land if those persons do not reside with him.

* * *

SCREECH OWLS

Q. We are being considerably annoyed by the screeching of a family of owls having their nest in a large and partly hollow tree located but a few feet from our house. As I understand owls are on the protected list, would like your advice in eliminating this nuisance.

J.K.M.—Huntingdon Valley, Pa.

A. Screech owls are on the protected list in Pennsylvania, and may not be killed except when found destroying poultry, game, other protected birds, their nests or young. In your case, I suggest that you cover the hole in which the birds are nesting, being sure to see that no live birds are in the nest before doing so. This will no doubt drive the parent birds away.

* * *

TELESCOPE SIGHTS

Q. May you hunt deer in Pennsylvania with a rifle equipped with a telescope sight?

F.S.—Newcomerstown, Ohio.

A. Yes. You may hunt deer or any other game in season, with a rifle equipped with telescope sights, so long as the rifle is not an automatic.

* * *

SQUIRRELS LACKING HAIR ON TAILS

Q. Recently we noticed a few squirrels having some sort of trouble in that their bushes have been entirely removed, leaving the tails a clean, bare kind of "rat tail". Will you please have this looked into?

C.H.S.—Bryn Mawr, Pa.

A. The lack of hair on the tails of squirrels is due principally to the necessity of squirrels lining their nests with hair during the nesting season in early Spring. We find this condition prevails with the squirrels on Capitol Hill. Evidently they pull hair from the tails and deposit it in the nests to keep their young warm and comfortable. It may also be caused to some extent by fighting among each other, particularly where squirrels are numerous. You need not be alarmed by this condition, as new hair will soon grow back to restore the tails to their normal condition.

* * *

HIGH-POWERED RIFLE FOR GROUNDHOG HUNTING

Q. May groundhogs (woodchucks) be legally hunted with a high-power rifle during the months of July and August?

E.H.E.—Flemington, Pa.

A. Yes. During the hours from 7 A. M. to 5 P. M., Standard Time, Sundays excepted. However, we have had at least three groundhog hunters killed during the past six weeks by high-powered rifles fired by hunters mistaking human beings for woodchucks. We strongly recommend that you use a rifle of less power so that long-distance shots at uncertain objects will not be taken. The Game Commission is intensely interested in saving human life, and the high-powered rifle has been proven an unsafe instrument for small game hunting.

* * *

TARGET SHOOTING

Q. Is it lawful to target-practice without a hunting license, on your own land or elsewhere?

I.W.M.—Youngwood, Pa.

A. Yes. A hunter's license is not required to shoot at targets other than wild birds or wild animals, whether the shooting is done on your own land or elsewhere. Hunters must not discharge firearms within 150 yards of occupied buildings without first obtaining consent of the occupants.

* * *

"RAW FUR" DEFINED

Q. What constitutes a "raw fur," as distinguished from a "cured" skin?

C.L.—Somerset, Pa.

A. Our definition of a raw fur is one that has just recently been taken from an animal, and is not in process of being tanned, cured or salted. The law forbids the possession of raw furs longer than ten days after the trapping season on that particular animal closes; and, for the purpose of Game Law enforcement, a skin is no longer considered green ten or more days after it is removed from the animal.

BETTER FIELD ADMINISTRATION

(Continued from page 11)

jor operation, it likewise is fundamentally wrong to hand an untrained, inexperienced man a badge, a gun capable of taking human life by the mere pull of a trigger, and a copy of the game and fish laws, then expect him to handle courteously and intelligently the many things expected today of a field officer, and to smile at personal insults.

To assure better field administration of game and fish affairs, all new appointees should have the benefit of preliminary vocational training. Such men, if selected, without regard to politics, by competitive examination from a list of suitable applicants, will give a much better account of themselves after they have acquired the necessary practical field experience.

Untrained Men Waste Efforts

When the Pennsylvania Game Commission first began selecting new field employes by competitive examination about fifteen years ago some very interesting things developed. In order that the officers then on the staff might know something about the qualifications required, a similar examination was given to them at one of the annual field conferences then held. To our amazement, it developed that one officer, who had apparently been doing his work quite efficiently as a law enforcement agent for ten years, could neither read nor write. Members of his family had done both for him, and he had acquired the uncanny ability to memorize the laws. When anyone doubted his word concerning the law, he merely handed them his game law pamphlet, told them to refer to a certain page, where they could read it for themselves.

For a number of years thereafter an examination was held to fill every vacancy which occurred, the Commission reserving the right to select one of the three qualified applicants at the top of the list. While this improved method still encountered certain difficulties, on the whole the men so chosen averaged far superior mentally and physically to those who might have been chosen by other methods.

The one big drawback to this early approach to better field administration was the fact that the successful applicants **were still without special training**, and had to pick their way along the thorny path of experience while they tried to learn what the Commission's work was all about. They were rarely of much value to the Commission for the first year or two; they made many costly mistakes, or else were so cautious they accomplished nothing; and even after several years they still had much to learn. Their tendency was naturally to think primarily in terms of law enforcement and to develop their abilities in that direction. It obviously was an expensive and only partially successful way to fill the gaps in the ranks.

Training School Established in 1932

To give all field workers a better understanding of the program as a whole, the Commission in 1932 discontinued its annual one-to-three-day field conferences and substituted a special "refresher course" at a Training School established in a building acquired with the purchase of some 40,000 acres of State Game Lands. Here all field officers were detailed in groups of about 25 for one week of intensive instruction.

This refresher course plan has been continued annually since, but at present is given only to those members of the staff who indicate a desire to gain more knowledge. About half of the staff applied for admission this summer, each period of training lasting two weeks.

It is encouraging to note that many other states are using this same plan to improve their approach to field administrative problems.

Pennsylvania fortunately has a very fair retirement law, and the Commission on January 1, 1934 fixed 65 years as the limit for employment, regardless of the length of service. This has eased a problem which confronts many states. Under the age restrictions in vogue for field workers all new employes may look forward to a minimum of 20 years of service before reaching the compulsory retirement age of 65.

First Student Officers Enrolled in 1936

Having observed the advantages of such special training, and realizing that new appointees should be better equipped before they assume responsible duties in the field, the Commission early in 1936 decided to discontinue the former method of selecting men to fill vacancies in the field and to substitute therefor a special eight and one-half month vocational training course for student officers, selected on a non-political, competitive basis. It was decided to enroll thirty-five in the first class, five from each of the seven administrative regions, to be selected by rigid competitive examinations.

The requirements for entrance were: Age, 21 to 35, with additional allowance for service as non-salaried deputies; minimum height, 5′ 8″; minimum weight 135 lbs.; maximum weight, 200 lbs.; rigid physical examination; and all subject to searching field inquiry as to character, etc. Compensation while in training, $45.00 per month.

Out of 948 who filed applications, 434 met the rigid qualifications to participate in the competitive examinations, of which number 349 took the examination. They were divided into seven groups, according to regional residence, five to be selected from the top of the list in each. A total of 53 men were examined physically to secure the desired 35 enrollees, 27 of whom completed the course and were appointed to field positions, all of them beginning at the bottom.

In 1937 it was decided to enroll a class of 28, four from each region. The qualifications were the same, except that the height was raised to 5′ 9″, the weight to 140 lbs., and all were required to have had three seasons of practical experience as hunters, trappers, or anglers. The age increased to a minimum of 25 years. The number of applicants was much smaller, but the men on the average were older and more mature. Out of this class 25 completed the course and were graduated in March. Two out-of-state students, sponsored by Commissioner Chalk of North Carolina, also were enrolled and successfull finished our course of training. We unde stand they are giving a fine account of them selves in the "Tarheel State."

Advantages of Training Program

The advantages of this plan of employin field workers are many: (1) It eliminate the need for numerous separate examina tions; (2) it gives the successful candidate an opportunity to learn all phases of th Commission's work, especially to strike proper balance between law enforcemer work and wildlife management requirements (3) it enables the Commission to select, fro a large non-political group, men especiall adapted to fill all positions; and (4) it give the workers a semblance of professiona standing and eliminates political bickering i their selection. It also does teach the me what authority means, because while in th Training School these students are all unde military discipline.

A personal interview with the recent grad uates was enlightening. Among them wer eleven former non-salaried deputies, three c whom had been continuously employed on per diem basis for a number of months t fill gaps until graduates became available The latter, who had the same opportunity to learn the work of the Commission as nev employees selected for the former method when asked whether they did not know th Commission's functions quite fully befor entering the Training School, all made th same reply: "I thought I did, but when got into the course I found that I actuall knew very little."

They all, with one exception, strongly en dorsed the military discipline maintained, an practically every man expressed regret tha he did not have time to secure still mor training on known game management prac tices and legal procedures.

Only one of these 52 graduate officers ha been eliminated from the service; all of th others are doing far better work than coul have been expected of men without sucl training. As they gain actual field experienc it is believed that they will more than jus tify the amount expended to train them, ap proximately $875.00 each.

The reactions of the sportsmen to thi Training School in the main have been ex cellent. Some few at first thought it was a needless expenditure of funds, or that cer tain phases of the course might be eliminat ed, but since they have had an opportunity to see these men in action and to observe the numerous benefits derived from th course they have become strong advocates of the Training School.

Most encouraging also has been the reac tion of the older members of the field staff At first skeptical, now they themselves are asking for more training in the very sub jects which the student officers were given Many of them who heretofore thought only in terms of law enforcement now seek infor mation on cover and food improvement more research findings, and handling pub lic relations problems.

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GUEST BOOK of VERMIN

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dwelt as my unwelcome guest. I'd taken a pair of nice fish and was sitting idly while I puffed a pipe and wondered why mist always rose from the pond in the form of Indian wigwams.

Wumph! wumph! From the tangle of rushes by the dam sounded an odd grunting note. It wasn't made by any bird, I felt pretty sure, and it didn't sound quite like a frog note. **Wumph!** I sat very still, let my pipe go out, as a mother mink and two half-grown kits came loping onto the dam. Perhaps the old one was telling those ninklets the facts of life. I don't know. But **they** knew what she was getting at right enough, for when she let out one quick throaty grunt one of the youngsters sprang straightway into the water to come slithering out with as nice an eight-inch bullhead as ever you've seen.

For a quarter of an hour before the predatory trio vanished in the mountain laurel down the bank I sat very quiet and watched the sunlight sparkle on their wet black fur. I watched the mother bounce on a green frog and feed it to the twins; saw the same uninhibited pair engage in a brawl over a perch-bug retrieved from a water-soaked stump. Once the mother swam snakily out of the water with what appeared to be a fingerling bass clenched in her teeth. Maybe it wasn't a bass though. I didn't look too closely. But not once until the family party was safely out of range did I make a dutiful move to pick up the rifle and send a magazineful of bullets spitting in their wake.

Soft and sentimental, this thing of liking vermin for its own sake on a small-time game preserve! Perhaps. But scientific game managers are warning more loudly every year against the danger of over-controlling predators. Things don't work out too badly on my own place. I'll hazard a guess that there are about as many black bass in that little pond of mine as in any pond its size that you can name; for all there are mink and raccoons there the year around, and hungry herons and kingfishers fishing the place from April till November of every year. And though I don't crusade with orthodox fervor against hawks, foxes, and the like, I'll take my own chance on a limit of birds in those covers on a next October's day.

Wild nature is such an ancient and capable mistress! She's been so many aeons working out this "balance of nature" between eaters and eaten. It's becoming clearer every day now that the safe, wise way to increase the game supply is to ease up on killing vermin and put our energies on improving cover and food-supplies instead. I don't mean that "vermin" can't play havoc with game abnormally concentrated, as on a game-farm or about a winter feeding station. But there's a vastly greater depth to the matter of predation than many hunters ever thought. All of us have learned from experience that shooting a hunting hawk lacks a lot of guaranteeing extra game in fall covers.

Once I watched a kingfisher shoot down to the pond and rise with a fish in its bill. It lit on the boat and beat the creature's brains out there with nasty thwacks. I shot the bird and discovered that its victim was a bullhead. Now bullheads gorge themselves in early summer off bass spawn and fry. (I've watched them do it with all the frenzy of drunken cannibals.) So obviously, by killing one sizable bullhead this dead kingfisher had saved more stripling bronze-backs than he himself could ever have caught in years to come. But biology is more devious than this. Consider that the abundant offspring produced by bullheads in my pond every summer, serve as the pièce de résistance for young bass. Sparing a kingfisher to catch bullheads there means saving a lot of little gamefish yes. But by the same token it may mean reducing the bass's food-supply to a point where cannibalism results among the bass! Only the skilled, unprejudiced naturalist can unravel such tangled skeins as these in the balance of nature. Only he can take the responsibility for saying that on a given area, given predators are a source of benefit or harm.

To kill every hawk and owl one sees is considered the finest sort of missionary work by many hunters. Not a competent wildlife student on earth but will tell you that's a boomerang. All of our owls are "good" ones except one or two species. And nine out of ten hawks you see are red-shouldered hawks, broad-wings, and other members of the Buteo clan. These big, conspicuous birds live largely off small rodents which are actually competitors with game,



A hungry April crow, one of the most destructive species of vermin, and a ruthless killer of game and song birds during the nesting season.

for food. Once in a while such mis-called "hen-hawks" may pick off a game-bird or bit of poultry, but not very often. Nearly all of the hawks we see soaring against the summer sky lack both the skill and the zest to have a living off such creatures. Instead they are benefactors of game-birds.

Suppose that most hawks and owls should be destroyed in line with a popular design for sport. Then it might not be long until your covers are overrun with moles and mice devouring all the grain you left for winter game-birds. Norway rats might shortly extend their range from their urban kennels (as they've already done in some mid-Western cornfields) to "people the isle" at the expense of worthy wildlife. Millions of little snakes (which you and I will never spy) would fatten into big ones off the proceeds of grouse nests and the silk-lined burrows of cottontails. You would likely behold a prompt upsurge of weasels, since the latter wild ferrets are largely held in check by birds of prey.

Yes, I've seen such things happen. Just a few years ago, for example, there were broad cattail marshes about Flushing, on Long Island. A startling lot of wild things made their homes there: black ducks, bitterns, marsh hawks, and several kinds of rail-birds. I liked the rails especially, and spent more spring days than one sloshing around through the cityside marshes for glimpses

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GUEST BOOK of VERMIN



A Saw-whet owl, one of the smallest owls, and like nearly all the owl family no enemy of game birds.

of the black-and-brown fellows fluttering up from their nests. But then New York grew up (just within the decade at the longest). Developments, improvements, politicians—now the World's Fair—reached out to claim those nostalgic bits of marsh. Laborers came; and trucks filled with cinders; and concrete. Rats came with them, of course. All over the marsh the ugly rodents swarmed. There weren't any marsh hawks or barn owls left by then to stem the tide, so the rats washed across the region like a flood. Many's the rail nest I found out there a few years ago, with only empty egg shells to tell the story. I guess you'd listen a long time on the Flushing meadows now before you'd hear a rail call tick-tock! in the spring night. If nature could only have managed though, to keep some hungry hawks and owls about, there'd have been a different tale to tell, for a few years anyhow. Predators are always opportunists. They'll never go after sly game so long as there's less wary prey to be had for the taking. An abundance of field mice, rabbits, and such "buffer species" is the best sort of protection from predators, to any winged game.

The wipe-out-vermin slogan has frequently defeated its own purpose. Gamekeepers on some British grouse heaths have killed off stoats and foxes only to see hares multiply disastrously: until the hares snapped off the heather so relentlessly that the covers grew up to bracken and grass which never could shelter a red-grouse brood. An ill-fated crusade was enacted on Vancouver Island too. There were plenty of deer on that Island a few years back; plenty of well-fed bucks with antlers like hat racks. But some hunters weren't satisfied. They cried out for a campaign of extermination directed at mountain lions and wolves which lived well off the deer (and added a bit of spice, by the bye, to a hunt there). "Kill the predators," well-intentioned sportsmen opined, "and the deer will increase as they never have done before." So all of the wolves and lions were killed by hired men. And the deer herds grew—to a certain definite point. For when winter came there weren't any hungry predators to keep the bucks and does on the move. The deer yarded up like cattle on a Montana ranch, like islanded whitetails in Michigan or the Adirondacks. The snows fell thick and thicker. The deer tramped down their yard. High and higher grew the prison wall of snow about them. Came a day when every tree within reach was cropped to a "deer-line"; when the trapped animals no longer could live off such gnawed boughs as hung within reach. **You** guess what happened to those deer!

But wolves, mountain lions, and such regal predators don't loom very large in most moderns' day-by-day picture of sport and conservation. Blacksnakes, foxes, and such small-fry killers mean a lot more to our sum total of sport. Thick-peopled New Jersey tells a tale of too much tampering with predators like these. For just as woodcock and other game-birds concentrate along the Jersey Coast on their migratory journeys, hawks and owls do too. For that reason certain spots in Jersey (as along the Connecticut and Long Island shore) have become favored stations for shooting hawks in fall and spring; and by the same token for taking censuses of the flocks of flying birds.

Now there are two general types of hawks: the big, conspicuous Buteos which feed mainly off mice and snakes; and the smaller, fleeter-winged, shyer sorts which specialize in catching game. These latter Falcons and Accipiters are neither so plentiful nor so readily shot as the big mouse-hawks. So it has happened quite naturally that during the past decade or two of kill-all-predators agitation, Buteos have been slaughtered in far greater proportion than the game-killing hawks. And quite as naturally it has come about that the wary Accipiters have increased in number to fill up the territories vacated by beneficial species. Censuses lately taken in New Jersey indicate that anti-hawk crusades have had the net result of decreasing the Eastern population of slow-winged mouse-hawks by over fifty per cent; and **increasing** by fifteen per cent the numbers of Cooper's hawks, sharpshinned hawks, and other crafty species that live off songbirds and game!

Quite apart from my personal zest for seeing a hawk, a mink, or a fox now and then, there's another reason why I would not destroy the last potential game-killer on my place. Predation keeps wild things wild; keeps game on its toes. A bloodthirsty weasel slinking through the weeds or a sharp-eyed falcon in the sky keeps game from getting soft. I have shot pheasants and quail—bred in the wild, mind you—on grounds kept carefully clear of predators. And the sport there wasn't worth taking. The birds didn't zoom off with a rush and roar that set your nerves to tingling. They just flew up when you crowded them close, and sailed quite unafraid to the handiest thicket. I once saw a spaniel pick up an uninjured quail in such a place without the bird's even resenting it. You'll never find game acting the way those softies did if it's kept on the qui vive by

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predators. And besides it's been established that many of the game creatures caught by vermin are only weak or diseased individuals better off out of the way anyhow.

There aren't many sorts of predators on the black list at my particular hunting ground. Thumbs are down on weasels, turtles, and at least the larger sorts of snakes. Crows are taboo because they've increased clear across the land, out of proper proportion. Crows compete with game for all sorts of feed, and they are somehow unsporting in their way of preying. They don't run down a bird in a fair flight the way a falcon does, but specialize in nestfuls of eggs and fledglings. I haven't been able to give the crow a break since a June day a few years back when I saw one of the rascals fly off to its nest with a peeping woodcock chick held in its beak.

The Cooper's hawk and his smaller cousin the sharpshin are banned from my sanctum. These are both trim-winged creatures of smallish or medium size, slaty-gray on the back, with underparts finely barred with red-brown. The larger counterpart of these two bloody hawks, the goshawk, is on my shoot-on-sight list too. Goshawks are a prime menace to Northerly game in winter when most winged predators are away in the South. Having seen the power with which a goshawk can strike down a grouse or pheasant, I can well understand the old-time "goose-hawk" appellation of this powerful bird.

Of owl-kind, the Great Horned species is the only one I wouldn't want around in reasonable numbers. That big brown-gray fellow with his feather "horns" has too keen an appetite for game. I guess I'd shoot one if I saw him on the place even if the species has become quite uncommon as forests have disappeared. Still I like to hear the Great Horned cry **Who-who-who!** in deep tones in the dead of night. Maybe that's why I never look very sharp at my vermin controlling, in the big woods beyond the cliff. I believe I have heard a pair of the birds hooting at each other over there now and then.

That short roll just about concludes the list of my competitors for game for which the latchstring is not out. Concludes it, that is, except for that archenemy of American wildlife, the half-wild house cat. That unfortunate fellow has become (through no fault of his own) the most relentless foe of our birds and beasts; worse, by and large, I should say, even than our own paradoxical craft of gunners! Gunners at least let up on game during nesting and resting seasons; and stop when they have enough. But neglected house cats never do either. Cats bear a certain immunity in this civilized world which renders them more ominous than native predators. You see stalking cats everywhere, hunting in woods and fields the year around. When you motor at night their eyes glitter at every switching-on of headlights. You'll never see one per cent as many of all other predators combined.

I don't blame the cats. They're merely indulging legitimate instincts. But I do blame the selfish, cruel members of my own species who, posing as lovers of dumb animals, leave their uncared-for pets in the country when they move back to town at the end of summer. And I can't bring myself to believe that it's quite cricket for anyone to let a cat go around un-belled. A bell doesn't hurt a cat in the least and it does save a lot of birds and young rabbits from being killed. I've heard the old come-back to that last, of course; the one that goes "Who are **you** to object to cats' killing birds when you kill them yourself?" My answers are two: first that sportsmen observe biologically sound open-seasons and cats don't. Second, that it is very illogical to attempt to defend a cat's killing birds on the mere grounds that some other group kills them too. That seems to me to be quite beside the point. And when you get right down to facts, I'm sure that lovers of cats enjoy seeing birds around quite as much as hunters do; and I'm convinced that they have no real willingness for cats to kill off a lot more wildlife just because hunters kill a part.



The Goshawk is a consistent and merciless killer of Ruffed Grouse.

Actually, cats are a very serious and increasing problem in the matter of wildlife conservation. Not **your** kind of cats, which are well fed and well cared for, and belled; but the unwanted felines cast off to live as they may; and the unbelled country cats which are allowed to roam where they like without counting the cost. That really isn't "kindness," you know.

Cats ought to be licensed just as dogs are, I think. And I believe that unwanted, unlicensed cats ought to be humanely destroyed, and not turned loose to live off wildlife. I've never yet heard one sound argument against licensing cats. Much of sentiment, yes; but not one good cool-headed argument. If you can tell me one, I wish you would write in and do so. But no big words and no vituperation, mind you! Just, good humoredly, one sound reason why cats shouldn't be licensed as are dogs—or hunters; since such a crack is bound to come!

I never heard the A. S. P. C. A. accused of being a cruel body, but I noted in that organization's report that during 1937 in New York City alone it destroyed more than

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WITH THE CLUBS

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The Tamaqua Rod and Gun Club located in the Owl Creek Valley near Tamaqua reports that its WPA project of rebuilding the first trout hatchery in the United States is practically completed. The original hatchery was built by J. F. Schirner in 1852 on land now owned and farmed by his grandson. When completed the dams and pools of the project will hold approximately 500,000 gallons of clear, cool water, the source of which is a large spring nearby. Among the other activities of the club has been the establishing of a game propagating area of over 80 acres of the finest game land in that territory. The area is practically all timber, brush, slashings and some swamp. 2,000 pine trees, 5,000 mulberries and 25 American Hollies as well as many patches of kaffir, millet and the Game Commission's new seed mixture have been planted. An interesting sideline of the Tamaqua club is its skeet shooting team made up of the crack shots of that section. The team issues a challenge to all comers. Those interested should write to Franc Ulrich, 127 W. Broad St., Tamaqua, Pa.

C. D. Henline, well-known Pennsylvania exponent of trapdom, won permanent possession of the Atlantic Indian trophy in the final shoot held Saturday, May 21, at the Bradford Gun Club's range in Foster Brook. He broke 49 out of 50 sixteen-yard targets and 24 out of 25 pardage targets for a total of 73x75. His total of 282 out of 300 won him first place over M. T. Davidson, who broke 281. H. B. Henline was third with 279.

The recently organized Bucks-Montgomery Counties Coon Hunters' Club held its first field trial on May 18, 1938 at the farm of Daniel Hoffman, Gwynedd Valley. It was attended by a large crowd; forty dogs were entered.

The novice class was won by a dog owned by Russell Kober, Chalfont, Pa.

First Heat—Tree dog owned by Deloughy & Behre, Madison, N. J. Line dog owned by J. Rodgers, Uwchland, Pa.

Second Heat—No tree dog. Line dog owned by G. Reed, North Wales, Pa.

Third Heat—Tree dog owned by Hoffert & Arnold, Hellertown, Pa. Line dog owned by Nonemacher & Clewell, Allentown, Pa.

Fourth Heat—Tree dog owned by Shriener & Boyce, New Brunswick, N. J. Line dog owned by Hoffert & Arnold, Hellertown, Pa.

Fifth Heat—Tree dog owned by Hoffert & Arnold, Hellertown, Pa. Line dog owned by Behre & Deloughy, Madison, N. J.

Pot Race—Tree dog owned by Shriener & Boyce, New Brunswick, N. J. Line dog owned by Jefferies, Downingtown, Pa.

Final Line and Purse of $25.00—Dog owned by J. Rodgers, Uwchland, Pa.

Final Tree and Purse of $50.00—Dog owned by Deloughy & Behre, Madison, N. J.

The money raised from this and future field meets will be used to buy more coons for Bucks and Montgomery counties. Anyone interested in the club is invited to join. Contact the secretary, Russell Kober, Chalfont, Pa.

The Washington and Green Counties Coon Hunters' Association held their third field trial Saturday, May 28, at the C. Edgar farm, near Waynesburg. These trials are creating much interest among southwestern coon hunters because all the proceeds are used for buying more coons for restocking the two counties.

A crowd of 400 men and women, with about 100 dogs, had a very busy day. The races started at 9:30 A. M. and ended at 9 P. M. Many new hunters attended the trials. Ohio and West Virginia were well represented.

First prize for tree dog was won by Jean Riggle, of Wellsburg, W. Va., with "Jackie", three-year-old black and tan hound.

The first line prize was won by Everett Landford, of Leechdale, with "Pen Zip", two and a half-year-old blue tick hound, and second line prize by Everett Landford, of Leechdale, with "Fido", six-year-old black and tan hound.

The free-for-all was won by L. D. Pack, (Cowboy Loye) of Fairmont, W. Va., with "Buck", three and a half-year-old blue tick, and second prize by Harold Caine, of Lagonda, with "Lead", four-year-old blue tick hound.

A lead in a vermin contest of 946 points caused the members of the Titusville Sportsmen's organization to set up a swell feed for the Townville boys. The final scores were Townville 2931 and Titusville 1985.

BETTER FIELD ADMINISTRATION

(Continued from page 26)

Field Officers Must Be Encouraged

A number of states now recognize meritorious services of field workers by annual increments in compensation, by promoting from within the ranks wherever possible, and by protecting them against loss of jobs through civil service or something akin thereto. Without such encouragement and security, a field staff soon becomes lifeless and demoralized, or spends time doing things which are foreign to the purpose of their employment.

The Pennsylvania Game Commission in 1936 put into operation a plan whereby every field worker may earn a small annual increment in compensation by meritorious service until he reaches the top of his grade. If for two successive years he fails to earn the increase to which he is entitled he is cited before the Commission's Trial Board for dismissal. This encourages the efficient worker and eliminates the misfit or the drone.

We also transfer field officers from time to time to new districts to acquaint them with the Commission's problems in all parts of the State, thereby equipping them for possible promotion to supervisory positions, also to save men who may have outlived their usefulness in a given territory because they have become too well known.

Strict Law Enforcement Necessary

Pennsylvania still believes in strict game law enforcement, even though the vast majority of its 600,000 licensed hunters observe the law remarkably well. During the past twelve years we collected $730,805.88 in game law fines, an average of $60,900.49 annually, the average number of prosecutions yearly during that period being 2,675. During the past year the fines collected amounted to $61,472.75, collected from 3,870 defendants. The high mark in penalty collections was during the fiscal year 1930-1931, when our game law fines reached the staggering total of $96,251.50.

For more than forty years we have prided ourselves upon the fact that our game laws are administered **without fear or favor,** which beyond question accounts for the present very encouraging widespread respect for the law.

Right here we should once more like to bring to the attention of the International Association three features of the Pennsylvania Game Law which more states should consider adopting. First and foremost is the fact that there is a fixed penalty for every violation, uniform throughout the State—not a minimum and a maximum. For example, when a man kills a grouse out of season he knows the fine is $25.00. Second is the fact that all prosecutions are handled by summary conviction hearings before a local magistrate, and when appealed the case is heard by the court without a jury. And third, any violator of the game law may, when apprehended, pay the cash penalty direct to the arresting officer upon signing an acknowledgment of guilt, for which he immediately receives an officially countersigned, registered receipt in full settlement. That closes the case finally.

We well realize that many of our colleagues here now labor under the impression that they could not do these things in their states. We also used to think so until we tried it. This plan of field settlements has been in successful operation since 1909, and has saved both officers and violators much time and money, with no serious difficulties of any kind. **Sure, quick punishment is the best way to stop the game or fish law violator.** If you want to improve this phase of your field administrative functions, we commend these features of our law to you.

In conclusion, we wildlife administrators are very definitely on the spot. We each have a difficult task before us. That task will become less burdensome if we gear our field administrative machinery to present-day needs. We must equip our salesmen with the knowledge and the training to sell sound wildlife management and restoration practices to the general public, especially to the landowners and the sportsmen.

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*Address at 32nd Annual Convention of the International Association of Game, Fish and Conservation Commissioners, Asheville, N. C., June 20-21, 1938.

CONSERVATION ESTHETIC

(Continued from Page 5)

is realized only when some art of management is applied to land by some person of perception. That is to say, its enjoyment is reserved for landholders too poor to buy their sport, and land administrators with a sharp eye and an ecological mind. The tourist who buys access to his scenery misses it altogether; so also the sportsman who hires the state, or some underling, to be his gamekeeper. The Government, which essays to substitute public for private operation of recreational lands, is unwittingly giving away to its field officers a large share of what it seeks to offer its citizens. We foresters and game managers might logically pay for, instead of being paid for, our job as husbandmen of wild crops.

That a sense of husbandry exercised in the production of crops may be quite as important as the crops themselves is realized to some extent in agriculture, but not in conservation. American sportsmen hold in small esteem the intensive game-cropping of the Scottish moors and the German forests, and in some respects rightly. But they overlook entirely the sense of husbandry developed by the European landholder in the process of cropping. We have no such thing as yet. It is important. When we conclude that we must bait the farmer with subsidies to induce him to raise a forest, or with gate receipts to induce him to raise game, we are merely admitting that the pleasures of husbandry-in-the-wild are as yet unknown both to the farmer and to ourselves.

Scientists have an epigram: ontogeny repeats phylogeny. What they mean is that the development of each individual repeats the evolutionary history of the race. This is true of mental as well as physical things. The trophy-hunter is the caveman reborn. Trophy-hunting is the prerogative of youth, racial or individual, and nothing to apologize for.

The disquieting thing in the modern picture is the trophy-hunter who never grows up, in whom the capacity for isolation, perception, and husbandry is undeveloped, or perhaps lost. He is the motorized ant who swarms the continents before learning to see his own back yard, who consumes but never creates outdoor satisfactions. For him the recreational engineer dilutes the wilderness and artificializes its trophies in the fond belief that he is rendering a public service.

The trophy-recreationist has peculiarities which contribute in subtle ways to his own undoing. To enjoy he must possess, invade, appropriate. Hence the wilderness which he cannot personally see has no value to him. Hence the universal assumption that an unused hinterland is rendering no service to society. To those devoid of imagination, a blank place on the map is a useless waste; to others, the most valuable part. (Is my share in Alaska worthless to me because I shall never go there? Do I need a road to show me the arctic prairies, the Goose pastures of the Yukon, the Kadiak bear, the sheep meadows behind McKinley?)

It would appear, in short, that the rudimentary grades of outdoor recreation consume their resource-base; the higher grades, at least to a degree, create their own satisfactions with little or no attrition of land or life. It is the expansion of transport without a corresponding growth of perception which threatens us with qualitative bankruptcy of the recreational process. Recreational development is a job, not of building roads into lovely country, but of building receptivity into the still unlovely human mind.

GUEST BOOK OF VERMIN

(Continued from Page 29)

190,000 cats which were roaming the city streets. Compare such a figure with the number of feline waifs scattered over the whole land to no one's enjoyment and to their own distress and I believe we'll be looking closer at a prime source of the really serious problem of a restored wildlife population.

A half-hearted philosophy of predator-control like mine wouldn't work, I suppose, on a high-pressure game-farm. If a man is bent on grinding the last possible target out of his land, or if his goal is the commercial sale of hunting privileges, perhaps he ought to campaign against vermin studiously. But there are a lot of hunters left in this still roomy land who go after their sport just for the fun of the thing. Practical-minded scientists say that these can rely pretty safely on the "balance of nature" to take care of vermin. I've noticed—and more than one horse-and-hounds fox hunter has told me he's noticed the same—that prey and predators go up and down together in strange cycles. When there are all the birds I'd ask for on my own place, I've found that there are more foxes and owls too. In years when game is scarce there aren't so many predators. Super-controlling vermin has never yet forestalled the down cycles of game. I guess the give-and-take, the eat-and-be-eaten principle has its roots a lot farther back than the day when the Mayflower landed. And while I would never suggest your giving weasels or goshawks the upper hand on those acres of yours, I do believe that when you set a trap for, or lay a bead on a predator, you should do it without spite or vengeance. Be calculating in your vermin-control if you must; persistent if you will. But hatred directed at honorable creatures which exist only in modest numbers is neither a happy nor a wise thing to carry into the glorious out-of-doors.

IN THE NEXT ISSUE

●

Complete Season's and Bag Limits for 1938



THE QUEEN ANNE PERIOD

To escape the new law about hunting after March 31st in our native state, a band of pilgrim foxhunters voyaged southward this spring in the Rose Tree M.F.H.'s station wagon to that Utopia of foxhunters,—the Eastern Shore of Maryland where the serene foxes run with the regularity and fixed routes of trolley cars, and all you have to do is to stand on your corner and watch the chase go by.

Enroute southward we passed Roulie Carpenter's Dilwyne farms, the source of some of the oldest foxhound blood in our kennels. In the fields near the road as many as eight thousand wild Canadian geese can be seen together,—all of which reminded us of Mr. Carpenter's great Chesapeake Montauk Pilot, immortalized on Dick Bishop's splendid set of sporting dog plates, which if any of our readers haven't been presented with, they should at once give themselves as Father's Day, Founder's Day or Fourth of July present, because they are really something.

The first day we hunted in Caroline county and hounds ran a fox for eight hours; the second day in Queen Anne we had somewhat of a foxhound convention with every nimrod within miles bringing "the best derned fox dog in the state." Nobody could count whether we had a hundred hounds or a hundred couples, with Walter Hill, the Eagle Farms huntsman, figuratively carrying the horn, but the old Eastern Shore fox didn't seem to care how many hound dawgs were on his line. He ran in great circles through boggy woods which made hounds emerge in black face, then huge sheep fields, with the native hounds shooting through the Page wire fences like Olympic fancy divers.

PENNA. DEER PROBLEMS IN 1938

(Continued from Page 13)

live weight, this means that each animal requires just over two pounds of food per day to carry it through the winter months.

Assuming that there are only 500,000 deer in the State and that the food supply problem is acute only during December, January, February and March, it would require over one million pounds of food per day, or a total of roughly 250 million pounds to feed the deer herd during the critical winter period. Since all would have to be produced on roughly eight million acres of forest land, much of which is in a state of development wherein less than twenty-five pounds per acre are being produced, and since during the severe weather the deer utilize only a fraction of the total range, little is the wonder that a food problem exists!

(Editor's Note: This article will be continued in next month's issue. A complete bibliography will appear with the conclusion of the series.)

EASTERN HAWKS—*What They Look Like in the Air*

Atlantic Coast West to the Great Plains

All Birds Drawn to Same Scale

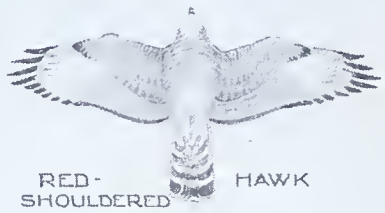
BROAD-WINGED or MOUSE HAWKS



ROUGH-LEGGED HAWK



RED-TAILED HAWK



RED-SHOULDERED HAWK



BROAD-WINGED HAWK

MARSH HAWK



POINTED-WINGED FALCONS



DUCK HAWK



PIGEON HAWK



SPARROW HAWK

SHORT-WINGED or BIRD HAWKS



GOSHAWK



COOPER'S HAWK



SHARP-SHINNED HAWK

SMALL-HEADED or CARRION BIRDS



TURKEY VULTURE



BLACK VULTURE

WHITE-HEADED or WATER-FREQUENTING BIRDS



BALD EAGLE ADULT



BALD EAGLE IMMATURE



OSPREY

PETERSON

WHAT HAWKS EAT

Based on studies by the U. S. Department of Agriculture, covering contents of 5,183 hawk stomachs. (See U.S.D.A. Circular No. 370, "Food Habits of Common Hawks," published 1935, price 5c, from Supt. of Documents, Washington, D. C.)

BROAD-WINGED HAWK or *Snake Hawk*



RED-SHOULDERED HAWK or *Singing Hawk*



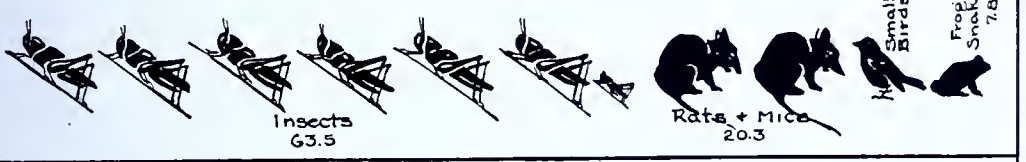
RED-TAILED HAWK or *Hen Hawk*



ROUGH-LEGGED HAWK or *Winter Mouse Hawk*



SPARROW HAWK or *Grasshopper Hawk*



COOPER'S HAWK or *Chicken Hawk*



SHARP-SHINNED HAWK or *Small Blue Darter*



MARSH HAWK or *Mouse Hawk*



Our Wildlife is in Your Hands

Nature has a place and a need for every Native Hawk. They are all part of our wildlife, and each plays an essential part in regulating the abundance of the animals on which they prey.

KNOW YOUR HAWKS

TRY TO INCREASE THE ONES THAT ARE NEEDED TO HELP US PRESERVE HEALTHY BALANCES IN OUR WILDLIFE POPULATIONS.

MOUSE HAWKS

SOARING IN CIRCLES
PERCHING IN OPEN
LARGE SIZE
TAMENESS
SLOW FLIGHT
WIDE WINGS
SHORT, BROAD TAIL

FALCONS

RAPID FLIGHT
LONG, POINTED WINGS
DEEP WING STROKE
STREAMLINED SHAPE

BIRD HAWKS

FLAP AND GLIDE FLIGHT
PERCHING UNDER COVER
DIRECT RAPID PURSUIT
SMALL SIZE
LONG TAIL
SHORT, BLUNT WINGS

MARSH HAWK

LOW COURSING FLIGHT
LONG WINGS AND TAIL
HIGH WING ANGLE

Species With Simple Feeding Habits:

VULTURES These useful scavengers eat only dead animals.

BALD EAGLE Our National Emblem is such a slow and heavy flier, that it lives chiefly as a scavenger, eating fish, carrion, and any sick or crippled birds and animals it is able to catch.

OSPREY Lives entirely on fish, chiefly non-commercial varieties that swim near enough to the surface to be caught.

Species That Are Generally Very Rare:

GOSHAWK A northern Hawk, coming south only in certain years. Eats poultry, game, rabbits, squirrels and mice.

DUCK HAWK Eats shore birds, sparrows, and other non-game birds. Now very rare. Don't shoot it!

PIGEON HAWK Eats small birds and insects. Is never common, and is too small to harm game.

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PENNSYLVANIA GAME NEWS

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SEPTEMBER
1938

TEN CENTS

PENNSYLVANIA GAME NEWS

Published monthly at Front and Reno Sts., New Cumberland, Pa., for Pennsylvania Game Commission, Harrisburg, Pa.
Executive and Editorial Offices, Commonwealth of Pennsylvania, Pennsylvania Game Commission, Harrisburg, Pa.

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Material for each issue should be submitted not later than the FIRST OF EACH PRECEDING MONTH.

Permission to reprint will be granted provided proper credit is given.

Entered as second class matter at the Post Office of New Cumberland, Pa., under Act of March 3, 1879.

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Vol. IX, No. 6

EDITORIAL

September, 1938

THE WOODCHUCK

WOODCHUCKS are about the best friends the cottontail rabbit ever had. Seventy-five per cent of our 600,000 hunters get a big kick out of rabbit hunting, and woodchucks dig plenty of homes for rabbits.

Woodchucks furnish a great deal of sport, but they have all too frequently been slaughtered as though they were pests of the worst kind. At the request of the sportsmen, the Commission recently exercised its power and fixed a daily bag limit of four, which will stop such useless waste.

But it is about high time this business of woodchuck hunting gets a fair and square deal. Ever since the Legislature declared it a game animal, with liberal provisions to protect farms, unfair criticism has been directed toward the Game Commission by individuals who are not thoroughly conversant with the facts.

At the present time woodchucks may be hunted only until 5 o'clock in the afternoon, the same as any other game except raccoons. While the Commission realizes that it would be nice to allow later shooting in the summer months, and fully intended such liberalities, the Legislature of 1937 insisted upon fixing the season for woodchucks throughout the year, except from September 15 to the beginning of the regular small upland game season, instead of July 1 to September 15 only and to fix uniform shooting hours for all game.

The bill as introduced would have given the Game Commission the right to establish later shooting hours in the summer months, but this power was restricted to the first day of any open season. Criticisms of the nature which have reached our offices would not be made if the facts were understood, neither would the Commission be criticised about the woodchuck situation in national publications.

The leaders of the sportsmen's organizations and the Commission have already discussed the matter fully, and if those who want to shoot woodchucks after 5 o'clock during the summer months, or who desire a shorter season, will bring the matter to the attention of their legislators remedial action may be taken at the next session.

PLAN WINTER FEEDING NOW!

NOW IS the time of the year when sportsmen should arrange with their farmer friends for an intensive winter feeding program. Farmers are not unmindful of the value of wildlife, and if approached properly, they will go more than half way in helping to conserve it.

If every landowner can be persuaded to let some corn stand near woodlands or other game cover, either on the stalk or in the shock, it will be the means of saving much game when Jack Frost lays his white mantle over the earth and heavy snows cover the natural feeding places. Husking patches of corn from the stalk and letting the fodder stand with some of the "nubbins" on it, should be encouraged everywhere near game cover.

Many farmers have already left strips or patches of grain standing along upgrown fence rows or small woodlots to provide food and cover during severe winter weather. This is most commendable.

A program of this sort is not difficult to plan or execute. All it needs is the joint cooperation of truly interested clubs and individuals. If you happen to be one of its members, get busy now and your efforts will be rewarded far beyond your expectations.

This is the kind of a program that every association in the state should foster. Spending available funds to assure ample winter food will often do more good, than to spend it all to buy additional game for stocking purposes.

RESOLUTIONS of the GAME COMMISSION



THE problem of wisely regulating the hunting seasons and bag limits in Pennsylvania has always been a difficult responsibility because of the widely varying conditions and the criticisms, either major or minor, which result. However, as the record clearly shows, the Commission has been able, despite criticisms, to manage the game supply very efficiently from year to year, considering the number of hunters who go afield. Only in a few instances has erred in its calculations, and in those instances the retarding factors were invariably the kind the Commission had no control over. Severe winters, early spring floods, late ice storms and other inclement weather have combined to make the game management problem difficult, but even with these catastrophies the Commission was able to determine seasons and bag limits to compensate in the long run for any loss caused by the elements.

However, the Commission's efforts to determine appropriate seasons and bag limits for deer, especially does, in an effort to reduce the herd proportionately with its food supply and at the same time help to improve it biologically, have always met with protests from those who did not understand the situation thoroughly. Yet the deer herd has increased consistently for more than twenty years.

This year, in order to reduce to a minimum such misunderstandings, the Commission invited the directors of the Federated Sportsmen's Clubs and the Izaak Walton League to a conference with it and its staff for the purpose of reviewing both the large and small game situations, and to agree upon such seasons and bag limits as in their joint opinion were justified.

While it has not always been possible for the Commission to hold such conferences, the Commission always wants the sportsmen to express their views frankly regarding seasons and bag limits, so long as they keep in mind the Commission's primary responsibility, namely, to perpetuate and manage the game supply.

At such a conference in May, the seasons and bag limits hereinafter enumerated were tentatively arrived at, and later adopted by the Commission. It must be borne in mind that all supplementary information and all recommendations in reference to the various game species were made by both the field staff of the Commission and its Division of Research. Every year field officers are called upon to make observations of the game conditions prior to the July meeting, and to report their findings to Division Supervisors with recommendations for seasons and bag limits. These reports are later brought to Harrisburg by the Supervisors and given further study in conference with the Administrative staff. Where biological problems exist extensive supplemental research investigations are made, as was done in the case of the deer herd during the last few years.

Therefore, it can be seen that no stone was left unturned in an honest effort to regulate seasons and bag limits that will best serve the sportsmen as well as perpetuate the game supply, and to that end it is hoped that all hunters and trappers will approve in good spirit the laws laid down for their benefit during the coming season.

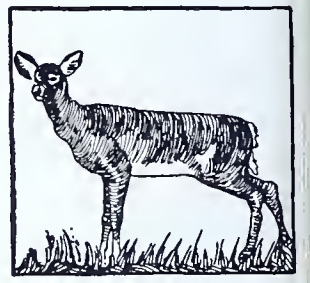
Below we publish in full the Commission's actions on seasons, etc. for the information of the readers of the GAME NEWS, as follows:

DECLARATION OF 1938 OPEN SEASONS

The Commission carefully considered the present and prospective supply of game and of fur-bearing animals, and the regulations which should be adopted to maintain an adequate supply of the several species thereof. Consideration also was given to steps further to reduce the number of hunting accidents and to improve relations between landowners and sportsmen. After lengthy discussion, findings of fact and resolutions were agreed to and, upon motion made, seconded and carried unanimously this 13th day of July, 1938, adopted as follows:

Findings of Fact

The Pennsylvania Game Commission finds as facts that:



1. *Small Game*—While the small upland game supply has recovered considerably from the ravages of the winter of 1935-36, it is not yet sufficiently abundant to justify an open hunting season for a full month, or a possession limit of more than the legal bag for two days.

2. *Big Game*—(a) The deer herd has become entirely too large for the available forage supply to sustain it in such condition that it may normally be expected to propagate its own kind in a biologically sound manner, also the sex ratio is badly unbalanced and should be corrected, necessitating a drastic reduction in the size of the herd through the declaration of an open season of six days on antlerless deer this year, with no open season for antlered male deer. The Commission further finds and is of the opinion that these objectives will best be accomplished by allowing hunters to take antlerless deer, with the regular hunting license wherever such license is required, without the issuance of special control permits this year as authorized by Section 501 of the Game Law.

(b) The present supply of bears does not warrant an open season of more than one week.

3. *Fur Bearers*—The supply of certain fur-bearing animals, especially muskrats, has been decreased alarmingly during the past two open winters, necessitating further trapping restrictions temporarily to conserve the future breeding stock thereof.

RESOLUTIONS
OF THE PENNSYLVANIA GAME COMMISSION FIXING AND ESTABLISHING OPEN HUNTING SEASONS, AND REGULATING THE TAKING OF GAME BIRDS AND ANIMALS AND FUR-BEARING ANIMALS.

1. WHEREAS, After due investigation and information otherwise obtained by the Pennsylvania Game Commission of the Commonwealth of Pennsylvania as to the annual supply of game and of fur-bearing animals in the Commonwealth, said Commission finds as facts and is of the opinion that, to assure the maintenance of an adequate future supply of game birds and game and fur-bearing animals in said Commonwealth, it is necessary to reduce the length of certain of the open seasons and bag limits for killing of game birds, game animals and fur-bearing animals fixed by law, and to establish small game possession limits and other regulations, governing the hunting, taking, and killing of various game birds, game animals, and fur-bearing animals in the months of October, November, and December 1938, and January to September 15, 1939, as hereinafter set forth; and that protection may be removed and an open season declared, and extensions of certain open seasons, as provided by law, may be allowed for certain other species of game and of fur-bearing animals hereinafter named without jeopardising the future supply thereof as hereinafter set forth, notwithstanding the open seasons and bag limits stated in the Act of Assembly of this Commonwealth; all under the powers and authority vested in the Pennsylvania Game Commission, in accordance with the provisions of Articles V and VI of the Act of Assembly, approved June 3, 1937, P. L. 1225, entitled "An Act concerning game and other wild birds and wild animals; and amending, revising, consolidating and changing the laws relating thereto";

2. THEREFORE, BE IT RESOLVED, That the open seasons (both dates inclusive), bag limits, and possession limits for and governing the hunting, taking and killing of all game birds and game animals, other than migratory birds, and of fur-bearing animals herein mentioned shall be and are hereby fixed as below indicated (Sundays excepted where so provided by law); and it shall be unlawful to hunt for, take, or kill game birds, game animals and fur-bearing animals, at any time during the months of October, November, and December 1938, and from January 1 to September 15, 1939, inclusive, other than as hereinafter specified:

FIXING SEASONS, BAG LIMITS, ETC.

	BAG LIMITS DAY	SEASON	OPEN SEASONS
UPLAND GAME (Small game possession limit 2 day's bag)			
RUFFED GROUSE	2	6	**Oct. 31—Nov. 12, 1938.**
Bobwhite Quail, Gambel Quail, Valley Quail, (combined kinds)	4	12	
Hares, (Snowshoe or Varying)	2	8	
Wild Turkey (See counties closed below).	1	1	**Oct. 31—Nov. 26, 1938.**
Ringneck Pheasants, males only	2	10	
Blackbirds	**Unlimited**		
Rabbits, Cottontail	4	20	
Squirrels, Gray, Black and Fox, (combined kinds)	6	20	
Squirrels, Red	**Unlimited**		**Oct. 31, 1938—Aug. 15, 1939.**
Woodchucks, (commonly called Groundhogs)	4	**Unlimited**	**Oct. 31, 1938—Sept. 15, 1939.**
Racoons, all counties by individual or hunting party	2	10	**Oct. 31—Dec. 31, 1938.**
Racoons, by trapping, except in counties below		10	**Dec. 1, 1938—Jan. 31, 1939.**
Bear, over one year old by individual	1	1	**Nov. 14—Nov. 19, 1938.**
Bear, over one year old by hunting party of five or more	2	2	
Deer, anterless, in all counties	1	1	**Nov. 28—Dec. 3, 1938.**
Deer, anterless, by hunting party of six or more	6	6	
FUR-BEARERS			
Minks, Opossums, Skunks	**Unlimited**		**Nov. 15, 1938—Jan. 31, 1939.**
Muskrats, by trapping only)	**Unlimited**		**Dec. 1, 1938—Jan. 31, 1939.**
Otters, by trapping only in certain counties		3	**Nov. 15, 1938—Jan. 31, 1939.**
Beavers, by trapping only, in certain counties		3	**Feb. 15, 1939—Feb. 28, 1939.**

3. AND BE IT RESOLVED, That pursuant to authority conferred upon the Pennsylvania Game Commission of the Commonwealth of Pennsylvania by Article V of the Act of Assembly, approved June 3, 1937, P. L. 1225, finds as facts that (1) in order to correct an unbalanced sex ratio which in its opinion now exists in the deer herd of the Commonwealth and (2) to reduce the herd to a size that will assure sufficient food and forage to sustain the herd in good health condition, the said Commission does hereby remove protection from and does hereby declare an open season for the hunting, taking and killing of deer without visible antlers or horns, without regard to sex, size, weight, or age, throughout the entire Commonwealth except in the Game Refuges established by the Commission, during the period of six (6) days beginning at 7:00 o'clock A. M. on the 28 day of November, 1938 and ending on December 3, 1938 at 5:00 o'clock P. M., during which period such antlerless deer may be hunted for and taken only in the manner and in the numbers prescribed by said Act for the taking of male deer, without any license or permit other than the regular hunter's license wherever the Act cited requires the possession of such hunter's license; and the Commission does not deem it necessary to exercise its powers, under sub-section (e) of Section 501 of Article V of the Act above cited, to issue or require special permits to hunt for or kill antlerless deer during said open season hereby fixed for the killing of same, nor to limit the number of persons who may hunt for such deer in any portion of the Commonwealth, nor to require a fee of $2.00 for a special permit which, under the said Act of Assembly, it is empowered to impose; and the Commission does hereby declare a close season for the hunting or killing of deer with visible antlers during the year 1938, and it shall be unlawful for any person to kill, or attempt to kill, any deer with visible antlers or horns during the year 1938; and

4. BE IT FURTHER RESOLVED, That, in accordance with the provisions of sub-section (b) of Section 501 of Article V of the Act above cited, the Commission is of the opinion that racoons are sufficiently abundant to justify taking such animals during the season and in the numbers above indicated through the use of traps and deadfalls in all counties of the Commonwealth except Allegheny, Armstrong, Beaver, Butler, Cambria, Fayette, Greene, Indiana, Lawrence, Mercer, Somerset, Washington, and Westmoreland, and all counties except those named are hereby declared open to such trapping in accordance with the provisions of the Act above cited; and

5. BE IT FURTHER RESOLVED, That the open season for taking beavers as above indicated shall apply only to the counties of Centre, Clearfield, Jefferson, Luzerne, Monroe, Pike, Susquehanna, and Wayne; that the open season for taking Otters as above indicated shall apply only to the counties of Monroe, Pike, Susquehanna and Wayne; and that such animals shall not be trapped or taken in any other county of the Commonwealth; and

6. BE IT FURTHER RESOLVED, There shall be no open season on Reeves Pheasants, Hungarian and Chukar Partridges, Doves, Male Deer with visible antlers, Elk, and Cub Bears; that during the year 1938 Wild Turkeys shall not be hunted, taken, or killed in the counties of Cameron, Clarion, Clearfield, Elk, Forest, McKean, Potter, Venango and Warren; and that Bears shall not be hunted, taken, or killed in the counties of Bedford and Blair; and

7. BE IT FURTHER RESOLVED, That in the interest of safety to hunters and further to safeguard the future supply of game and of fur-bearing animals, as authorized by provisions of the Act above cited, it shall be unlawful to hunt for, take, trap or kill, or attempt to hunt for, take, trap, or kill, any wild birds or wild animals, migratory or otherwise, before 9:00 A. M. (Eastern Standard Time) on October 31, 1938, the first day of the general open hunting season as fixed by these resolutions, or to take fur-bearing animals or racoons before said hour by trapping on the first day of the several trapping seasons above fixed for the taking of various fur-bearing animals and racoons; and it shall be unlawful to set or to stake out traps for fur-bearing animals or racoons prior to that hour on the dates named; and

8. BE IT FURTHER RESOLVED, That the 1938 open seasons, bag limits, and other rules and regulations governing the taking of migratory game birds, as promulgated by the United States Department of Agriculture, shall be effective for the year 1938 in this Commonwealth, as provided by Section 503 of Article V of the Act above cited, except that on October 31, 1938 no such migratory game birds shall be pursued or hunted prior to the hour hereinbefore fixed, nor shall such birds be hunted on Sundays; it being construed by the Commission that in tidal marsh areas any later shooting hour than 5:00 P. M. that may be permitted by said Federal regulations for rails and gallinules is not in contravention of the provisions of the section above cited; and

9. BE IT FURTHER RESOLVED, That any person violating any of the provisions of the foregoing resolutions shall, upon conviction, be sentenced to pay the fine and costs of prosecution as fixed by the Act of Assembly above cited; and

10. BE IT FURTHER RESOLVED, That notice of the foregoing action shall be duly published in accordance with the provisions of Section 505 of Article V of the Act aforesaid; and the Executive Director of the Commission is hereby authorized and directed to certify these resolutions as and for the act of the Pennsylvania Game Commission.



Illustration from Wildlife in The Farm Program, Bulletin No. 16, by James N. Morton. Published by the Pennsylvania Game Commission.

Happy and contented is the farm boy where wildlife is abundant.

"And certain fields and certain trees were loyal friends to me,
And I knew the birds, and I owned a dog, and we both could hear and see.
Oh, never from tongues of men have dropped such messages wholly glad
As the things that live in the great outdoors once told to a little lad."

—Edgar A. Guest.

The Con

OVER 122 million people are occupying and utilizing more than 3 million square miles of land and water in the United States today. Many millions of these people, both old and young, hunt and fish. However, because of the magnitude of these activities, and because of some of the destructive methods employed, it has been necessary to provide wise laws to protect the game and fish, and to preserve the fields, forests and streams in which they live.

The ruthless cutting of our forests, the use of public streams as dumping grounds for industrial and other wastes and indifference concerning soil erosion have combined to destroy the habitat of wild creatures. All of these come within the scope of the present day restoration program.

There is a new conception of restoration and conservation today and a closer cooperation between sportsmen and wildlife administrative agencies. Throughout the entire Nation sportsmen's organizations are rallying to the cause of conservation as never before. The sportsmen's organizations that have developed in recent years have increased and attracted considerable attention and respect from the public. They are helping people to better understand and utilize properly their vast natural resources, thus making America a better place to live in.

There are still many people who have not learned the value of their great resources nor how to use them wisely. They have not been utilizing them from a sporting angle and they continue to believe that any method of taking fish and game is a God-given privilege regardless of man-made laws. They persist in believing that nature alone can keep up the supply of these creatures regardless of the numbers they continue to slaughter. Many of these people would not think of violating the laws that regulate our human affairs but they think nothing of breaking the laws of gun and creel. Such disregard of nature's laws is nothing more than a tradition handed down from generation to generation without any thought of correction aside from arresting the violator and attempting to educate him by way of the pocketbook in fines imposed in a court of justice. While this method has had its effect it has not wholly solved the problem. To solve it fully we must educate the youth.

When it has become necessary, from time to time, to make more stringent regulations to cope with existing conditions, whether caused by man or nature, the sportsmen have accepted them in a receptive and cooperative spirit, while the remainder of the fishermen and hunters have criticized. This criticism is only natural because of a lack of understanding and knowledge of the conservation program and the necessity for such changes. The average fisherman or hunter

Conservation of Youth

by M. E. Shoemaker

today has only a vague knowledge of conservation and its problems. The result has been a state of confusion which youth has been forced to absorb without any appreciable benefit because it has been his only source of information. Today there are two evil forces at work—the poacher who continues to utilize the fish and game for a material or commercial gain, and the individual who delights only in defeating the purposes of conservation by allowing the poacher to furnish him with illegally acquired fish and game to satisfy his own selfish appetite at the expense of the law abiding citizen.

Both of these types of individuals are scattering the seeds of lawlessness and discontent, which ridicules good sportsmanship and citizenship, and encourages the spirit from which injustice grows. The harvest is selfishness, greed and encroachment upon the rights of others. But the harvest reaches greater proportions than just the principles of law disobedience. There are others who suffer far more than the actual violator. The innocent suffer more than the guilty. This is truer of youth than of adults because the adults have been able to improve and broaden their knowledge and understanding and youth has not. Their young minds have not been trained to understand the full reasons for law observance or the serious consequences that follow when involved in law violation.

The type of conservation program now in progress and the type of men administering it will change this pallid picture, and youth will be given a chance. It may be safely said, "as youth goes, so goes America." The job today is to crystallize youth into useful and worthwhile citizens; to provide them with clean wholesome sport whether in field, in stream or elsewhere; to give them a clearer conception of the entire conservation program; and to teach them general law observance. When the youth of America can be brought up to these standards there will be less need for conservation or other laws. Violations will decrease. Cleaner thoughts and harmony will prevail. Penal institutions will not be filled to capacity.

How can such a program be made a reality? By including in the general school curriculum the teaching of conservation and prevention. Teach youth true sportsmanship and how to lead a life of usefulness for themselves and their fellowmen. Teach them the seriousness of law infraction and the serious consequence that is bound to follow. Teach them what the conservation agencies are, their set-up, accomplishments and purposes. Teach them how and why certain things are done to perpetuate their sport. Teach them that conservation and other officers are friends who are protecting their future interests. The opinion that conservation and other officers are to be feared has been prevalent too long and youth particularly has harbored this fear. Teach them to properly utilize the facilities provided by nature and to cooperate with those in administrative positions who are striving to build up what man has broken down. Teach them law observance of all kinds to make them better citizens. It is the lack of knowledge of these things that has caused youth to go astray.

The trend against this type of education in our public schools has been very strong but it is rapidly breaking down. It will not be long before youth will have an opportunity to learn something of the environment that lies beyond the classroom. The criminal situation and the delinquency of youth in America today demands that they be given a better start in life. This type of educational program will give them such a start. Other youths will follow in their footsteps. Crime of all kinds will decrease and the cost will decrease accordingly. The vast sums spent yearly on crime can be applied to more worthwhile projects. Recreational projects can absorb some of this expense to provide means of occupying the minds of the youths who are underprivileged. Reformatories and penitentiaries are housing plenty of youths today who have violated the conservation laws.

Last year the staggering total of $15,000,000,000.00 (fifteen billion) dollars was the cost of crime in the United States. This is six times more than was spent for educational endeavors. Much of this vast expenditure could have been prevented had there been a conservation education afforded the youth now involved in the greater part of crime. Last year 18% of the crime committed in the United States was by youths less than voting age. The average age of those confined in penal institutions is 19 years. The majority of crime was committed by youths 22 years of age. Once formed, habits are hard to break. If they are bad we all reap the harvest. If they are good we reap the rewards. In the past character in

(Continued on page 31)



The Boy Scouts always help to feed game in winter.



Entering the Williamsport chute. Not long afterwards the ill-fated raft crashed.

Photo courtesy John Bain

THE "LAST RAFT"

By LEO A. LUTTRINGER, Jr.

TIM-BER-R-R-R! Amidst the echoing crash of a giant white pine in a remote section of Pennsylvania's forests was launched the opening chapter of an idealist's dream. The dreamer, R. Dudley Tonkin, last of an old lumbering family which settled near the headwaters of the Susquehanna's west branch over a hundred years ago, wanted above all else to commemorate that historic event, as well as his own fiftieth year in the lumber business.

At last he hit upon the very solution to his problem. Why not, he soliloquized, build a raft, get a crew of old time rivermen to man it, and float it down the river to Harrisburg in the same manner the old timber rafts of a half century ago were floated down? What better way, he thought, to uphold the traditions of that great pioneer industry which contributed so much to the advancement of our Nation? What more fitting tribute to pay to the courage, heroism, sacrifice, suffering and hardship exemplified and endured by the early day raftsmen, most of them long since departed, and to the dwindling army of those who still live?

When the first great tree fell under the guiding hand of Levi "Bud" Connor, when one after another of the white pine giants also fell, they were dragged by team over snow covered trails to the river's edge and hewn and bowed together. The raft was 112 feet long and 28 feet wide, made in three platforms. People who beforehand had scoffed at the idea, who felt that Mr. Tonkin and his companions were chasing a will-of-the-wisp, began to think differently. Interest grew rapidly.

Soon the countryside near Cherry Tree, Burnside, Bellnap and McGee's Mills became a mecca for the curious. The news spread, hundreds of people visited the scene of operations to watch the construction of the "last raft." As it neared completion the event was given widespread publicity. The eyes of the Nation were focused on that one little spot in Pennsylvania's woodland.

Engrossed in their labor, sponsor and crew perhaps never realized the full extent of their undertaking. They may or may not have had a vision of the excitement that memorable day, the 14th of March, 1938, would cause; when amidst cheering thousands the trim little craft, her fore and aft crews at the long, perfectly balanced sweeps, was expertly maneuvered into the turbulent waters.

Down the river swept the intrepid crew and a small group of official passengers. School children were allowed on the raft at all tie-ups, and many were the books and papers the members of the crew and passengers autographed.

The writer did not reach the starting point in time, although a strenuous effort was made to get on the raft at one of the tie-up places along the way. Mr. W. W. Wrigley, of Clearfield, well known merchant and sportsman drove me all over the countryside in an effort to reach one of the landing points so I could get aboard, but traffic congestion prevented our getting near any of them.

At the Pewee Nest, a local picnic ground along the river above Curwensville, we almost made it, but the raft did not tie up where we thought it would. It shot over a small dam some distance below and landed there.

Mr. Wrigley finally managed to hail a couple of fellows in an outboard motorboat and had them cruise upstream to find out just where the raft would land in Clearfield. When the young fellows returned with the information we hit the high spots for Clearfield to make arrangements to have everything ready for a fitting celebration.

Howard Stewart, former member of the Game Commission, acted as commentator when the raft landed, and amidst a rousing welcome from several thousand people it came safely to rest along shore at the upper end of the city. From that point Mr. Tonkin and some of the old timers were induced to say a few words over the microphone, all of which brought tremendous cheers from the spectators. The Mayor and other dignitaries spoke, the school band played, and the first leg of the journey was properly and thoroughly celebrated.

Next morning at 7:00 A. M., amidst another large gathering the raft left its mooring, shot over the Clearfield dam in fine shape, and proceeded on its winding and picturesque course to Karthaus. It rained part of the day, but the downpour was forgotten in the excitement and enthusiasm of the voyage.

Mr. Wrigley and his daughter made the trip from Clearfield to Renovo, along with many other interesting persons whose names are mentioned here and there throughout this article. Just as we left Clearfield two daring young men, who missed connections when we embarked, jumped onto the raft from the railroad bridge, one spraining his ankle badly, the other barely making it. He was within an inch of going overboard. The former, a young chap by the name of Carl Fox, later became the cookee's helper.

When I said picturesque a minute ago, I meant every word of it. No one has any idea of the beauty or magnificence of our forests unless he travels by water along the winding courses of our mountain streams. For miles one heard nothing but the rippling of the water on the sides of the raft, or the roaring of the rapids as we shot through them at ever-increasing speed.

We were due to land at Karthaus that evening but experienced difficulties in snubbing the raft to a suitable tree. The current was swift and as a result we were forced to tieup at Salt Lick Landing, two and a half miles below at five-thirty. From there some of the party hiked back to town along the railroad while others, myself included, awaited the arrival of trucks from over the mountain.

At the hotel that evening young Fox became extremely ill from his swollen ankle and had to be taken to the local Doctor for treatment. The cook stayed on the raft all the time to guard it against souvenir hunters, who at Clearfield the night before had gotten away with practically all the kitchen supplies, including knives and forks, salt and pepper shakers, napkins, etc.

I forgot to mention awhile back our stopover at Miller's Landing where a lovely old and interesting lady, now eighty-four, met us. She had witnessed many rafts pass her isolated home in bygone days, and out of respect for her interest Mr. Tonkin ordered the raft to tieup. I took pictures of the old timers greeting her at the door of her time-worn house.

We left Salt Lick Landing at 8:20 the morning of March 17, and shortly after went through the famous Buttermilk Falls and the Cataracts. Our destination that day was Renovo, and we made it in good time, stopping only once, at Keating, at noon. The second day's run also was extremely picturesque although a drizzling rain discouraged our photographic ambitions.

To break the monotony, the crew and passengers sang a great deal. There was much good natured banter, passengers had time to become better acquainted—in fact almost like old friends. Mock trials were held, and numerous other amusing entertainment was furnished by the more talented members of the party. The women who made the trip are to be highly commended for putting up with the many discomforts they had to endure, but they were good sports, all of them.

The most photographed individuals on the raft were the members of the crew, but

(Please Turn Page)



Photo courtesy by Lawrence A. Long, 16 year old Muncy schoolboy



Photo courtesy "Harrisburg Evening News"

Above: The crash! Note the enveloping waters, the struggling victims.

Left: Levi "Bud" Conner, builder, of the raft, left; T. J. Fae, one of the old timers, center; and R. Dudley Tonkin sponsor of the trip, right.

THE "LAST RAFT"



Frank Stevens, of Clearfield, Boy Scout who carried the traditional augar to Lock Haven, and who later continued the trip until the crash.

old Harry Connor, the pilot, and Bud Connor, the man who superintended the building of the raft, came in for more than their share of photographic laurels.

All the way, even through remote, heavily wooded sections, little groups of people, many of them having tramped many miles to the river's edge, called to us from bridges, from stream banks, hilltops, etc.

One of the episodes which brought more forcibly to my mind than anything else the deep sentiment the trip inspired was when the raft passed the spot where one of the passengers, Mr. Tozer, an old riverman from Tyrone, lost his father years before when he fell from a raft and drowned. Another remarkable thing to me was the ease with which Harry and Bud Connor, and some of the other old lumberjacks, recognized and named familiar landmarks.

One thing about the scenery from Karthaus to Renovo which inspired me more than anything else were the beautiful stands of white pine and the thick growth of rhododendron along the stream banks. We saw very little wildlife, in fact only one porcupine atop a tree, a fawn deer, several wild ducks, quite a few migrating geese and a gray squirrel.

The majestic mountains, rising almost vertically from the water's edge, presented a magnificant spectacle, and we all prayed for sunshine so that we could register those marvelous beauties of nature on our film, but the day remained dull and somber. Nevertheless, we took many pictures. At times the railroad paralleled the river, and on more than one occasion we were saluted by the whistle of an engine, while the engineer and fireman waved frantically at us from the cabin. Near Renovo I saw Maurice Sherman, Division Game Supervisor along the bank in an isolated spot taking pictures.

The arrival at Renovo was something to remember. School children by the hundreds clamored to board the raft and Mr. Tonkin ultimately agreed to let them on in small groups. We almost wore our arms out signing autographs. Everything in the town was free to the crew that night, and several of us enjoyed a movie as though it was the first time we ever saw one.

We left Renovo at 8:10 the morning of the 18th, and arrived in Lock Haven at 3:30 that afternoon. It was a nice though not quite as interesting a run from the standpoint of scenic beauty. As we approached Lock Haven we were met by the Mayor and other city officials in a police boat. They greeted everybody, then left.

Some place up the river we picked up an accordion player who kept us wonderfully entertained all the way to Lock Haven. A gentleman by the name of Mr. Kepler, who rode from Renovo to Lock Haven with his little three year old daughter, took the limelight for awhile when he got the little girl to tap dance. As we neared Lock Haven we also were met by a number of airplanes which threatened at times to take the roof off the cabin—or so it seemed.

Motorboats, rowboats, canoes and other craft followed as we neared the mooring point. Thousands were on hand to greet us. The first person I saw was Leroy Gleason, Game Protector, taking movies of our arrival. He and F. F. Marshall, President of the Clinton County Fish and Game Association, were also on hand next morning to see us off. My friend, the Paramount news reel man who got on at Keating, and wanted to get off but couldn't because we pulled out before he was ready, was also on hand to welcome us, and later took some pictures of the raft going over the Lock Haven dam.

That night the Chamber of Commerce held a big banquet in honor of Mr. Tonkin and the crew. I made notes of some of the speeches because I thought they contained some of the finest tributes to the old time lumbermen and rivermen I ever heard, or expect to hear again. Unfortunately my notebooks were lost in the subsequent crash and my memory is not capable of having recorded the remarks properly. At the culmination of the banquet the Mayor turned over the keys to the city carte blanche.

After that I spent the evening with the local Game Protector, Miles Reeder and his family. He chased all over town trying to get some film packs for me but no one had the right size. One of the interested sportsmen who took moving pictures on part of the trip was none other than Joseph Parks, former member of the House of Representatives from Altoona, and member of the Game and Fish Committee.

Shooting the Lock Haven dam, a five foot drop, was our most hazardous passage and only the crew and several officials were permitted on the raft. I sat, as usual, on the roof of the shanty and got some fine motion pictures of the whole thing. The nose of the raft edged outward over the dam quite some distance, then dipped. And I mean she dipped. Old Harry Connor, Chief Pilot, stood on the

THE "LAST RAFT"

front like a general, the water swirling around him up to his knees.

As soon as I finished taking the front going down I quickly swung the camera and got the middle and rear sections coming over, showing the stern crew in action. It was good while it lasted. In building this dam no provision was made to run it and our raft was the first one ever to go over. We untied at Lock Haven at 8:15 and crossed the dam at 8:20, tieing up below five minutes later.

The run from Lock Haven to Williamsport was probably the most uneventful part of the trip. However, the scenery was beautiful. There was a noticeable widening of the stream, the country was more open generally, and the mountains were not nearly so abrupt nor so high. I missed getting a picture of one of the most unique rock formations I ever saw along the river above Jersey Shore.

At one point along the route several large flocks of wild geese in perfect formation circled the raft apparently trying to get their bearings. I stood behind and to the side of the American flag which was flapping in the breeze on the prow and managed to get a beautiful picture of a large flock seemingly coming out of the flag's folds. Unfortunately, this picture went to the bottom along with my other equipment when we later crashed at Muncy.

From Lock Haven to Williamsport we saw more and more people along the stream banks and at some points on the highways traffic was badly congested. Bridges, as heretofore, were packed with humanity, and many were the gibes which were flung at us as we passed under them. A favorite expression was, "Watch out, you are exceeding the speed limit," or "How about giving you a tow," etc., etc.

When we hit the slow water between Jersey Shore and Williamsport we were razzed in earnest, for we were barely making two miles an hour. Furthermore, the sun shone brightly, the afternoon was extremely hot, and most of us were pretty badly scorched—quite a contrast to the first couple of days when it was so cold, rainy and blustery.

Bud Conner, who had one of the worst looking carbuncles on the back of his neck I ever saw, and who suffered untold misery the whole trip, was given first aid that afternoon and was later induced to go to the Williamsport hospital for treatment. He came to see us at the Hotel Stover after the crack-up at Muncy. Under his arm he carried the log book which he managed to pick up somewhere. Mr. Dudley Tonkin and Bill Lynn, his photographer, also escaped the accident, both having remained on shore at Williamsport to make arrangements for Sunday night's landing.

As we neared Williamsport we were met by various individuals in power boats, rowboats and canoes, many of whom rowed from shore, tied to the raft and floated down with us. The Mayor and members of the City Council visited the raft twice in their police launch, once to extend a welcome, and the other to find out what was holding us up. We were due to land in the city at five o'clock, and practically every person in town had turned out to see us, but it was almost eight when we finally snubbed in at the foot of Maynard Street.

As it grew dark the number of cars on the highways along the river were so many and so close together that their headlights formed what appeared to be a long chain of lights extending for miles in either direction. The police launch finally came back and towed us the last five miles into the city. The crew held tightly to the side of the boat and a rope was fastened to the back end of the launch and to one of the lashpoles on the raft. I held the rope taut so the launch would not lose any of its pulling power.

At Williamsport Bud Greenwood, son of our State Game Farm Superintendent located at Loyalsockville, not far from the city, was on hand with some new films I ordered and an invitation to spend the evening with him. He later extended that invitation to Frank Stevens, the Boy Scout who officially carried the auger from Clearfield to Lock Haven, and with whom I struck up quite a friendship, so we both accepted.

Next morning Bud took us back to the raft, and I gave him my 16mm. movie camera and told him to take a picture of us going through the Williamsport chute from the shore so I could have it from both angles. I was going to take a picture from the roof of the cabin. I got a good one but lost it when we crashed. He got a dandy, however, for which I am thankful.

I forgot to mention that at Jersey Shore I saw some friends from Harrisburg along the bank, and after we reached Williamsport John Ross, our Division Game Supervisor, and his family waved at me from below the chute. After we went through the chute we tied up below to take on passengers. From there we started definitely toward our next destination, which I understood was to be Northumberland or Sunbury.

We hit up speed soon after we left Williamsport. Just a short time before, however, the Sea Scouts who accompanied us, and one or two other young men who had boats, volunteered to pick up a little firewood. A load cut to stove lengths was supposed to have been delivered at Williamsport but it failed to arrive. The firewood which the boys gathered consisted of nothing more than old rotton logs ranging anywhere from six to ten inches in diameter and from three to five feet in length and some old forked tree limbs about six inches at the base and tapering off into a few inches at the broken tips. This refuse was piled up on the back of the raft near the cabin.

Everything progressed serenely that morning, and the only excitement we had was when the raft scraped the side of one of the piers of the highway bridge a mile or two above Muncy. I remember I was sitting in front of the cabin talking to Dr. Charles F. Taylor, of Montgomery, about a sportsmen's meeting to be held the coming Thursday at Williamsport when the incident occurred. There was some excitement getting a trailing rowboat up on the raft to keep it from being smashed against the pier.

It was not long after that, in fact but a few moments, when we approached the Muncy railroad bridge, which was jammed with people —and I heard Ord Tonkin yell from the top of the shack that we were going to hit one of the piers. I noticed the men at the front oar working frantically as we approached the channel between two of the abutments but realized we could not make it and that we would probably hit head on.

Instinctively everyone assumed some defensive position although in the sudden shock of realizing we were about to hit no one apparently paid any attention to anyone else's movements. I ran through the cabin to the back of the raft and braced myself but the impact sent me to my knees and I remember getting my trousers wet.

I stood up immediately and looked around. Everything seemed all right and I assumed it would be but a moment before we were clear of the pier. However, the current caught the back end and started swinging it downstream, but the distance between the piers being much shorter than the length of the raft the first thing we knew it smashed broadside into the pier to our right. The impact nosed the front end down, catapulting almost everybody into the icy waters.

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Photo courtesy "Harrisburg Evening News"

One of the greatest thrills came in Rocky Bend but the cumbersome craft was skillfully guided to safety whenever out-jutting rocks imperilled it.



THE PENNSYLVANIA DEER PROBLEM IN 1938

By RICHARD GERSTELL

(Editor's Note: *This is the second of three installments of Mr. Gerstell's summary of the current deer problem. The concluding section of the report will appear in the October issue of the* Game News.)

The résultant effects of the deer problem have proven unusually widespread and highly undesirable. Broadly speaking, all the sequelae may readily be divided into three separate classifications, each distinct but all complexedly interrelated. The first group comprises the consequences suffered by the deer themselves, the second embraces the unfavorable reactions encountered in attempted forest management, while the third deals with property damage on areas devoted to agriculture.

The effects upon the deer are quite numerous and in certain instances their exact mechanics are not clearly understood. It certainly appears, however, as if practically all the more common "ills" may directly or indirectly be attributed to the fact that present forage conditions have resulted in general malnutrition of the herd. Some of the more common means whereby the faulty nutrition of the animals is manifested will be discussed in the paragraphs which follow.

Possibly the first indication of undernourishment is found in the fact that in certain respects the food habits of the deer in many sections appear to be changing. Not a great deal of information concerning the subject is at hand, but field studies made on areas supporting unusually high deer population densities clearly show that under such conditions, certain food species, absolutely untouched though equally abundant on tracts supporting lower population densities, are heavily browsed. Furthermore, the investigations have shown in some instances that the altered feeding habits have been forced upon the animals because they themselves have eliminated various of the more desirable food-producing plants through overbrowsing. Also, as a general rule, superficial studies reveal the fact that throughout the greater portion of the deer range the soft maple, aspen, and other highly palatable deer foods are browsed to excess, while the browsing on pine, scrub oak and other species rarely touched some few years ago annually becomes more apparent. Certainly these facts would seem to indicate that a shortage of the most sought after foods has induced dependence on other sources which may well be inferior in ability to sustain the deer in a properly nourished condition.



Figure 4. This twenty-seven month old buck was carried on a heavily over-browsed range portion. As shown in September, the antlers had not even pushed through the skin.



Figure 5. By September this fifteen-month old buck carried on high quality foods showed a well developed four-point rack almost entirely rubbed free of velvet.

PENNSYLVANIA DEER PROBLEM

Secondly, during recent years there has been a noticeable increase in the percentage of runty individuals common to the deer herd. Feeding experiments conducted during the past three winters have demonstrated the fact that *deer stunted during the first winter of their lives will continue to grow during later periods of development, but in most instances they will never fully recover from the effects thereof.*

For example, one season a group of eight fawns, four males and four females, were tested as to their growth under varied food conditions. All the animals were very nearly the same age, having been born in late May or early June. From the time of birth up until December 31st immediately following, all were carried on the same diet and at no time did the weight of any two individuals vary by as much as nine pounds. On January 1st the animals were divided into two groups of four each. Group "A" contained the two smaller males and the two smaller females. The average weight of the four specimens was 59.6 pounds each. Group "B" was composed of the larger males and females which averaged in weight 63.2 pounds apiece. From January 1st to April 31st both groups were constantly supplied with more food and water than they would consume. Group "A", however, was fed an "ideal" food in the form of a standard horse chow containing cracked corn, barley, oats, alfalfa meal, molasses and other essentials of a balanced diet (analysis: protein 10%; fat 3.2%; carbohydrates—nitrogen free extract, 56% and fibre 11%), while group "B" was fed on cut natural foods including red maple, laurel, and rhododendron (analysis*: Red maple —protein 1.92%; fat 1.34%; carbohydrates—nitrogen free extract 20.29%, and fibre 15.18%; laurel—protein 3.80%; fat 2.66%; carbohydrates—nitrogen free extract 28.15%, and fibre 7.92%. Rhododendron—protein 2.85%; fat 2.14%; carbohydrates—nitrogen free extract 26.68%, and fibre 8.86%). On May 1st it was found that the average weight of the individual members of group "A" was 72.4 pounds, while that of the specimens in group "B" was only 64.2 pounds. On the same date both groups of animals were placed on a diet of horse chow and cut greens, but during the following eighteen months the members of group "A", originally the smaller animals, remained constantly larger and heavier than the members of group "B" and showed a slightly higher growth rate. Similar experiments were conducted a second year with the same general results.

Thus, it would seem logical to conclude *that under present Pennsylvania conditions many deer are temporarily stunted during the first winter of their lives; that they never fully recover from the effects thereof; and that this,* together with the effects of an unbalanced sex ratio which will be discussed in another section of this report, *in part accounts for the increased percentage of runts now common to the herd.*

A third indication of the ill effects of current food conditions is found in the annual development and shedding of the antlers of the males. During recent years the percentage of legally killed bucks with poor, spindly racks of horns has increased to a readily noticeable extent. This may be due in part to the possibility that heavy gun pressure and more or less constant shooting of antlered males only have resulted recently in the killing of a larger percentage of bucks in the younger age classes which generally tend to have smaller racks of horns. It is, however, an established fact that many bucks from four to seven years of age are annually killed when carrying racks comparable in development to those commonly borne by two- and three-year-olds. Also, it is a well known fact that during the past decade many thousands of Pennsylvania bucks are annually found to have shed their horns in late November or in early December, whereas fifteen or more years ago, when deer were already unusually abundant within the Keystone State, such occurences were recorded only rarely.

Even from the sporting standpoint developments of the type just mentioned are anything but desirable. More important, however, is the fact that they appear to be indicative of generally unfavorable physical conditions common to the individual members of the population.

The horns of deer are secondary sexual characteristics concerning which full information is non-existant. Schinkel (4), among others, has discussed the development and shedding of antlers by deer, while Newsom (5) has called attention to the possible effect of the soil make-up of the range upon their growth. The current Loyalsock experiments, mentioned elsewhere in this report, have added certain information (6) on the subject which will be briefly summarized herewith.

First, it has been found that individual animals generally "run down" as the result of some mechanical injury, such as breakage of bones, will as a rule evidence little or no antler development during the period of recuperation, while the final growth invariably shows striking evidence of limitation. Secondly, animals deprived of dietary essentials usually fail to show favorable antler development. For example, a group of bucks fifteen months of age, as well as three individuals of twenty-seven months, carried on a twenty-three acre tract consisting of open grass field and brush heavily over-browsed by deer the winter before, *produced at best only spikes less than three inches long and in most instances the horns failed even to push through the skin* (Figure 4). On the other hand, similar specimens of the same ages and ancestry confined in small individual pens and

(Continued on page 27)

* Analyses through the courtesy of Pennsylvania Department of Agriculture, Bureau of Foods and Chemistry.



Figure 6. A yearling doe in the last stages of a lingering death.



Figure 7. A pronounced deer-line and relatively few trees stand on this portion of the over-browsed range.

"YOU MAY AND MAY NOT"



YOU MAY:

GROUNDHOG SEASON

Hunt groundhogs with gun or bow and arrow on week-days from October 31 to September 15th. (Season closed September 16 to October 30th only.) Bag limit 4 a day.

RESIDENCE

Purchase a resident hunter's license after having been a bonafide resident of Pennsylvania for 60 days preceding application, if you are a citizen of the U. S. A.

NON-RESIDENT FEE

Purchase a non-resident hunter's license, regardless of the State in which you live, for a fee of $15.00.

LOST LICENSE OR TAG

Obtain replacement of a lost license or tag, or both, for a fee of $1.00.

TRAPPING WITHOUT LICENSE

Under 18 years of age, trap fur-bearers and predators without a license.

HUNTING WITHOUT LICENSE

At any age, hunt or trap without a license on lands on which you reside and cultivate, also on adjoining lands with the owners' consent, but a person under 16 must be accompanied by a member of his family over 21 while hunting with firearms on adjoining lands.

TAXIDERMY

Obtain a permit to practice taxidermy (Fee $25.00) after having served a regular apprenticeship of 4 or more months. Applicants are now required to pass an examination.

YOU MAY:

REGULATED SHOOTING GROUNDS

Obtain a permit to operate, regulated shooting grounds of not less than 100 acres (minimum fee $25.00), where pheasants, chukar partridges or mallard or black ducks furnished through private funds may be shot between the opening day of the small game season and December 31st.

RACOON TRAPPING

Trap racoons in any county declared open to such trapping by the Game Commission.

QUAIL AND RING-NECK TRAPPING

Trap quail and ringneck pheasants from December 1st to April 1st, with the written consent of the Commission, or one of its salaried field officers, for the purpose of holding the birds over the winter.

DEADFALLS

Use a deadfall of any size for taking fur-bearers and racoons in season, and predators, providing it is tagged with the name and address of the owner, and is visited every 36 hours.

KILLING MUSKRAT, BEAVERS AND OTTERS

Kill a muskrat, beaver or otter with a firearm after it has been legally trapped.

DIGGING OUT ANIMALS

Dig out dens or houses of any fur-bearing animals except beavers, on cultivated lands upon which you reside. It is also legal to dig out dens of woodchucks, rabbits or other game animals, when it is possible to show material damage on lands you cultivate.

SKUNKS IN BOROUGHS

Kill skunks at any time within any borough or city in Pennsylvania, and within 200 yards adjacent to the limits of same.

PERMIT TO POSSESS DEAD GAME

Obtain a permit from the Game Commission to retain lawfully taken game for a period of 6 months after the season closes.

POSSESSION OF LIVE GAME

Possess at any time game taken legally outside of the Commonwealth. (Apply to the Commission for a permit to possess live game thus taken. No charge.)

POSSESSING CURED SKINS

Possess at any time the cured skins of game birds or animals lawfully taken.

LIVE RACOONS

Possess live racoons lawfully taken by applying to the Commission for a permit within 5 days after the close of the season. (No charge for permit).

HUNTING RACOONS

Hunt racoons any hour of the day or night in the open season, Sundays excepted.

REMOVING ANIMALS FROM TRAPS

Remove racoons and fur-bearing animals from traps on Sunday, when lawfully caught.

BLINDS AND DECOYS

Use blinds and decoys in hunting wild waterfowl, under Federal regulations.

BAITING TRAPS

Bait steel traps and deadfalls.

PUMP GUNS ON BIG GAME

Hunt big game with a magazine shotgun (pump-gun) loaded to full capacity with "Pumpkin" ball shells.

FUR-BEARERS DESTROYING PROPERTY

Kill or capture alive any fur-bearing animals, except beavers, at any time in any manner, when found destroying personal property, but only within the limits of the property upon which the damage is done.

UNDER THE 1937 GAME CODE

YOU MAY:

BOW AND ARROW

Hunt either big or small game with a bow and arrow.

HAND-DRIVEN BOATS O. K.

Hunt game through the use of a boat or craft propelled by oars, pole or handpaddle.

"DRIVING"

After killing a deer or bear, continue to cooperate with your party by "driving," until the camp limit is taken, but you must not in any manner attempt to kill a second deer.

HUNTING WITHOUT ROSTER

Hunt big game as individuals in a party of 4 or less without keeping a roster.

GUIDES FOR BIG GAME

Continue to act as a guide after having killed your limit of big game, if you do not carry a rifle or shotgun.

GUIDES USING DOGS

While acting as a guide, use your dogs to locate or chase small game.

KILLING BIG GAME BY MISTAKE

After killing an unlawful big game animal by mistake, be required to pay only one-half of the full penalty, by delivering the carcass to a Game Protector within 24 hours after the kill and furnishing a sworn statement.

KILLING SMALL GAME BY MISTAKE

After killing an illegal bird or animal, other than big game, by mistake, be required to pay only 2/5 (two-fifths) of a full penalty, delivering the carcass to a Game Protector within 24 hours and furnishing a sworn statement.

RACOON AND BEAR SKINS

Ship the skins of legally killed racoons and bears by Parcel Post, for any purpose, and other game to taxidermists when package is marked showing contents. (Such shipments out of State except racoon and bear skins, legal only under permit from Executive Director.)

SHIPPING BIG GAME

Ship big game by Express or transport it, unaccompanied by the owner, when each portion is marked with the name and address of the owner, and his license numbers.

REMOVING GAME OUT OF STATE

Remove game out of the State *that has been legally taken in another State.*

REMOVAL OF MOUNTED SPECIMENS

Remove from the State any mounted specimens of lawfully taken game when transferred as part of your personal effects.

NON-RESIDENT REMOVING GAME

Take with you personally when leaving the State as a non-resident licensed hunter, any game except elk that you have lawfully taken, which must not exceed two days' legal kill, this being the small-game possession limit in 1938.

SALE OF IMPORTED GAME

Sell game imported dead or alive from another state, if the carton containing same or the individual carcasses have attached a tag identifying the game in plain English, and giving the state or nation from which shipped. Before such game is offered for sale, a metal seal must be attached to each bird or animal by a representative of the Commission. (Seals 5¢ each.)

SALE OF MOUNTED SPECIMENS

Sell the mounted heads or tanned skins, or parts thereof, of any game not killed in a wild state in Pennsylvania.



YOU MAY:

TRAINING DOGS

Train your dog on any small game except wild turkeys from August 20th to the following March 31st, from sunrise to 9 P. M., Standard Time. No firearms usually fired from the shoulders may be carried. Dogs may be trained on racoons from sunrise to midnight, during this period.

FIELD TRIALS

Obtain a permit to hold a field trial of any kind from April 1st to April 15th. Permits to hold field trials with led game animals only from April 1st to August 19th may be issued. Fee $5.00.

RETRIEVER TRIALS

Obtain a permit to hold a retriever trial from October 15 to December 31. Fee $10.00.

FOX-HUNTING WITH ORGANIZED PACKS

Obtain a permit to hunt foxes with an organized pack of 20 or more hounds from August 20 to the following March 31st. Fee $50.00.

GAME DESTROYING PROPERTY

Under certain conditions, kill at any time any elk, deer, bear, rabbit, squirrel, racoon, woodchuck or blackbird, found materially destroying crops, fruit trees, vegetables, livestocks, etc. (For further details, apply to the Commission.)

PROTECTED BIRDS DESTROYING PROPERTY

Kill any eagle, hawk, owl, turkey vulture, or heron caught destroying livestock, poultry, game, other protected birds, their nests or young, or fish in private ponds.

(Please Turn Page)

"YOU MAY AND YOU MAY NOT"

YOU MAY:

REMOVING WOUNDED ANIMAL

With permission of the owner or person in charge of a property, remove a mortally wounded bird or animal from its place of refuge in a rail, post, wood or stone pile or fence, provided such property is restored to the condition in which it was found.

SIGNALLING WITH GUN

Discharge a firearm where safe at any time to signal for aid while in distress.

RETURN OF SKINS

Have the skins of animals, on which you claim bounty, returned to you if desired.

DEER-PROOF FENCE

Enter into an agreement to erect a deer-proof fence where deer are destroying farm crops, orchards and commercial tree nurseries. The Commission furnishes the fencing and staples; the landowner erects the fence.

BEAR DAMAGE

Be paid for damage by bears to livestock, poultry or bees, upon lands open to public hunting.

YOU MAY NOT:

GROUNDHOGS

Trap or dig out woodchucks (groundhogs) except when it is possible to show material damage on lands you cultivate.

SUNDAY GROUNDHOG HUNTING

Hunt groundhogs on Sunday. They are now game animals.

GROUNDHOG SEASON

Hunt groundhogs between September 16th and October 30th, inclusive.

DOGS FOR HUNTING

Use a dog for hunting groundhogs, or any other wild animals or birds, from April 1st to August 19th, inclusive.

HAWKS UNPROTECTED

Kill any hawks except the goshawk, sharp-shinned hawk, and Cooper's hawk.

TURKEY BUZZARD

Shoot a turkey buzzard (vulture). They are now protected.

OWLS UNPROTECTED

Kill any owls except the great-horned and the snowy owl.

MINIMUM AGE

Attempt to purchase a hunter's license when under 12 years of age.

HUNTING UNDER 16

Hunt with a gun, or bow and arrow, when under 16 years of age, unless accompanied by a member of your family over 21 years old (except on your own home grounds).

HUNTING WITHOUT LICENSE

At any age, hunt wild birds or animals, without a license, except on your own home grounds and those adjoining.

CONSENT REQUIRED

Hunt or trap without a license on lands adjoining those on which you reside, unless you have consent of the owners.

REPORT GAME KILL

Fail to forward your Game-Kill Report to the Commission before January 16. (Penalty $2.00).

YOU MAY NOT:

MINIMUM AGE—SPECIAL PERMITS

Apply for a permit to practice taxidermy, deal in furs, propagate game, maintain a road side menagerie, or other special privilege, unless you are 21 years old or over.

RIFLE HUNTING

During the five days preceding the open deer season, hunt any wild birds or animals with a rifle, or other firearm discharging but one ball or pellet at a time. (Penalty $25.00.)

CARTRIDGES

During the five days preceding the open deer season, have any rifle cartridges or single-ball shotgun shells in possession while hunting. (Penalty $25.00).

RACOON TRAPPING

Trap racoons in any county not opened to such trapping by the Game Commission.

RAW FURS

Have raw furs in possession longer than 10 days after the season closes.

STAKING OUT TRAPS

Stake out or set traps prior to the day and hour fixed on the open season for taking fur-bearers and racoons.

IMPORTED GREEN PELTS

Possess green pelts taken in another state, unless positive identification and proof of the locality where taken is attached. (Licensed fur-dealers excepted.)

TRAPS FIVE FEET FROM HOLES

Set steel traps closer than five feet from any hole or den which may be occupied by a fur-bearer or predator. (Penalty $10.00.)

SNARES, POISON, ETC.

Use a snare, poison, explosives, or chemicals to take any fur-bearing animals or predators (including foxes).

TRAPPING MUSKRATS, BEAVERS, OTTERS

Take muskrats, beavers or otters by any method except steel or live traps and deadfalls. (Shooting prohibited until after the animals are trapped).

DIGGING OUT FUR-BEARERS

Smoke out or dig out the den or house of any fur-bearing animal.

CUTTING DEN TREES

Cut den trees to take fur-bearers or predators.

BEAVER TRAPPING

Attempt to trap beavers unless you are a resident of the Commonwealth.

TEN TRAPS FOR BEAVERS

Set more than 10 traps for beavers at one time.

BEAVER HIDES

Possess a beaver hide beyond 10 days after the season closes, unless it has been tagged by a salaried officer of the Commission.

SHIPPING RAW SKINS

Ship the raw skin of any fur-bearing animal, racoon or predator out of the State unless a tag obtained from the Commission (for 25¢) has been attached to the shipment. (Holders of fur-dealer's and taxidermy permits excepted.)

BEAVER DAMS, HOUSES

Disturb a beaver dam or house without a special permit from the Commission.

DISTURBING TRAPS

Disturb another's traps, or take a fur-bearer, racoon or predator from the trap of another without specific permission of the owner. (Penalty $25.00.)

"YOU MAY AND YOU MAY NOT"

YOU MAY NOT:

SMALL GAME POSSESSION LIMIT

Possess more than two days' bag limit of small game, in the 1938-39 season.

POSSESSING GAME AFTER SEASON CLOSES

Possess any game longer than 30 days after the season closes, without a permit.

SUNDAY HUNTING

Hunt any game (including groundhogs) on Sunday.

NIGHT HUNTING

Hunt any game except racoons between 5 P. M. of one day and 7 P. M. Standard time of the next. (Racoons may be hunted any hour of the day or night, Sunday excepted.)

GUNS REQUIRED

Take game by any method except through the use of a gun, pistol, revolver or bow and arrow.

VISITING TRAPS

Fail to visit traps at least once every 36 hours, unless prevented by sickness or storm.

TAGGING TRAPS

Fail to attach a metal tag to all traps to show the name and address of the owner.

PLAINLY VISIBLE

Shoot at any wild bird or wild animal unless it is plainly visible.

ANIMALS FROM DENS

Dig, cut, smoke or in any other manner take any live uninjured wild bird or wild animal other than a predator from its den or place of refuge.

AUTOMATIC GUNS

Use any automatic gun for taking wild birds or animals.

MAGAZINE (PUMP) GUNS

Use a magazine shotgun containing more than three shells in the magazine and chamber combined, for any bird or animal hunting, except for big game.

AIR RIFLE, SILENCER

Use an air rifle or silencer for any hunting of wild birds or animals.

AUTOMOBILE HUNTING

Hunt any birds or animals from an auto, vehicle, boat, or craft of any kind propelled by mechanical power.

BAITING

Set bait or food of any kind to attract and take wild birds or animals, except when placed on steel traps or deadfalls.

TRAPPING GAME

Trap any game birds or animals, except by permission of the Commission or one of its regular salaried officers. (Racoons in certain counties excepted.)

ILLEGAL DEVICES

Use a snare, net, bird-lime, deerlick, pitfall, turkey blind or turkey pen.

SET GUN

Use a set-gun—a device set to operate in the absence of the owner. Penalty $100.00.

ARTIFICIAL LIGHTS

Use an artificial light for taking any game except racoons.

SINGLE EXPANDING BULLET

Hunt big game through the use of any bullet or ball except one of the expanding type, only one of which may be discharged at a time.

THROWING LIGHTS

Throw a light upon any big game while possessing a gun or other weapon with which such game could be killed.

YOU MAY NOT:

BIG GAME IN WATER

Attempt to kill or capture any big game while it is taking refuge in a body of water.

DOGS PROHIBITED

Use a dog for hunting big game or wild turkeys.

FERRETS-FITCHES

Use a ferret or fitch to hunt or take rabbits and hares.

TRANSPORTING ILLEGAL GAME

Use a vehicle or trailer to transport game illegally killed.

SECOND DEER

Attempt to kill a second deer or bear in one season.

KILLING DEER WITH ANTLERS

Kill any deer with visible antlers, in 1938.

BIG GAME WITHOUT HEAD

Possess any big game without the head attached, unless you can produce satisfactory evidence that the animal was legally killed.

ROSTER

Hunt big game in a group of 5 or more without maintaining a roster containing the names of all cooperating persons. A duplicate copy must be posted at headquarters.

BIG GAME HUNTING

Hunt big game after having participated in any manner in killing the camp limit of such game.

TAGGING BIG GAME

Possess a big game animal longer than 4 hours after killing without attaching the required tag.

KILLING GAME FOR HIRE

Kill game for wages or hire.

PARCEL POST SHIPMENTS

Ship game by Parcel Post, except the skins of racoons and bears. Game may be shipped to licensed taxidermists when package is properly marked showing contents.

TRANSPORTING SMALL GAME

Transport small game unaccompanied by its owner.

TRANSPORTING BIG GAME

Transport big game unless there is a marker attached showing name and address of owner, license numbers, and county where killed.

REMOVING GAME OUT OF STATE

Ship or remove any game bird or animal, or protected bird, out of the State. (See exceptions for non-residents.)

BUYING, SELLING GAME

Buy or sell any game, or parts thereof, except deer or rabbit killed in another state, or the skins of racoons and bears killed anywhere. (See further exceptions for certain imported dead game legally tagged.)

DOGS CHASING DEER

Kill a dog chasing deer unless it is in such close pursuit as to endanger the life of the deer, or is found killing the deer.

DOGS CHASING, IN CLOSED SEASON

Permit your dog to chase game, or any other wild bird or animal, from April 1 to August 19, inclusive.

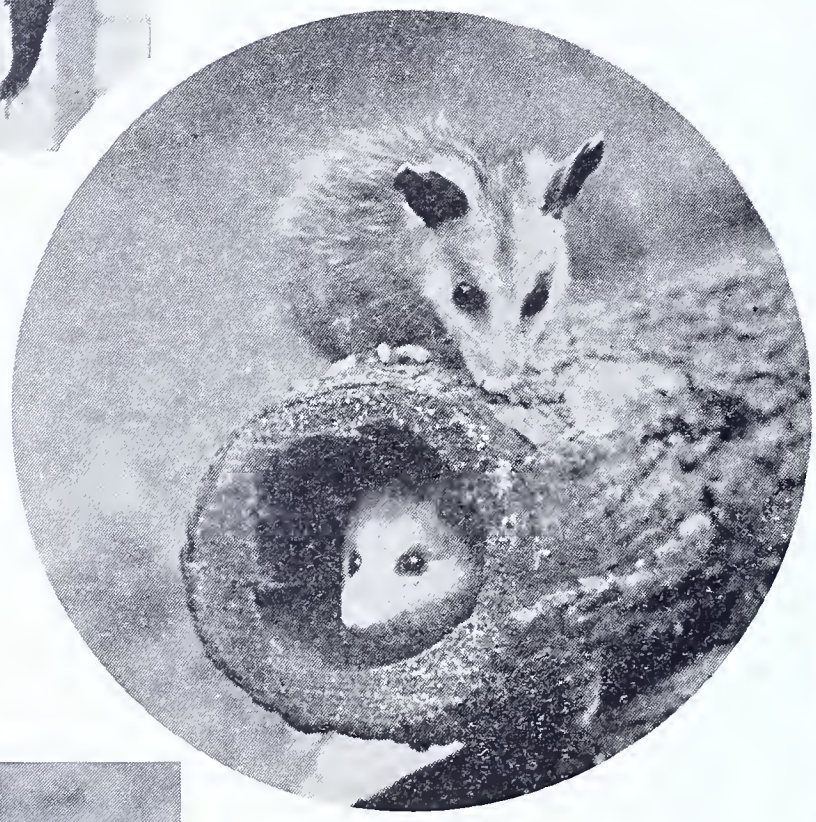
RELEASING CERTAIN ANIMALS

Release within the State any fox, wild cat, *domestic cat*, mink, weasel, ferret, or fitch, imported from another State or reared in captivity or a domestic state. Penalty $25.00.

(Continued on page 30)









Top: left to right. Richard Rauch, Director of Harrisburg Zoo, holding mother opossum and ing—just a few of the many young animals and ds being collected for research and photographic poses by the Game Commission. Baby skunks. n, or "monkey-faced" owl. Young Cooper's vk.













Center: Young opossums inspecting an old stump. The Flicker is fond of ants and its long, poi and saliva-covered tongue is a valuable aid in burr ing into ant hills and drawing the insects out.

Bottom: Young Black-crowned Night Heron. C Horned Owls. The talons of a Great Horned A beautiful color pattern graces the wings the Black-crowned Night Heron.





CURRENT TOPICS



Seth Gordon, Executive Director of the Game Commission, holding part of hand etched water service presented to him by his office staff in commemoration of his twenty-fifth anniversary in wildlife conservation. The gift was presented jointly to Mr. and Mrs. Gordon. A portrait of Dr. Joseph Kalbfus, first Secretary of the Commission hangs behind Director Gordon.

MIGRATORY SEASONS AND BAG LIMITS

Federal regulations for ducks, geese and other migratory birds as announced by the Federal Government fit splendidly into Pennsylvania's shooting program and *eliminate a lot of the boundary troubles between Ohio and Pennsylvania and along the Delaware.*

This year the Federal seasons and bag limits for migratory waterfowl were discussed at some length late in June at the 68th Annual Convention of the International Association of Game, Fish and Conservation Commissioners at Asheville, N. C., from which the 1938 regulations were finally drawn up by the Biological Survey. The country has been divided into *three major zones* this season, Pennsylvania occupying a place in the central zone, comprising the states of New Hampshire, Massachusetts, Rhode Island, Connecticut, Delaware, New York, New Jersey, Ohio, West Virginia, Kentucky, Indiana and most of the central and northwestern states. The regulations for this year call for a *45 day season* instead of a 30 day season as was effective last year, but Federal game officials announced that if it is found that the duck supply does not continue to increase under the present plan it will be necessary to go back to a 30 day season next year.

With New York, New Jersey and Ohio having the same seasons as Pennsylvania a great many of the difficulties which heretofore ensued when the seasons were not uniform have been eliminated. Federal regulations also were liberalized to include a two day possession limit on waterfowl instead of only one as heretofore.

The woodcock season which extends the *full month of October*, is the same as Pennsylvania hunters enjoyed last year. However, *only one day's possession limit is permitted for woodcock*, although the *seasonal bag is unlimited.*

The shooting hours for ducks, geese and coots are from *7:00 A. M.* to *4:00 P. M.* The shooting hours for woodcock and snipe extend from *7:00 A. M.* to *5:00 P. M.* Pennsylvania regulations provide, however, that migratory game birds *shall not be hunted prior to 9:00 o'clock on the opening day of the small game season, October 31, or on Sundays.*

The season on ducks, geese, jacksnipe and coot in Pennsylvania this year extends from *October 15* to *November 28* inclusive, Sundays excepted; on rails and gallinules from *September 1* to *November 30*; on woodcocks from *October 1* to *October 31.*

The bag limits for the various migratory game birds are as follows:

Ducks (except wood duck).—Ten in the aggregate of all kinds, of which not more than 3 of any one, or more than 3 in the aggregate, may be of the following species—canvasback, redhead, bufflehead, and ruddy; and any person at any one time may possess not more than 20 ducks in the aggregate of all kinds, of which not more than 6 of any one, or more than 6 in the aggregate, may be of the following species—canvasback, redhead, bufflehead, and ruddy.

Geese and brant (except snow geese and brant in Florida and all States north thereof bordering on the Atlantic Ocean, and Ross's goose).—Five in the aggregate of all kinds, and any person at any one time may possess not more than 10 in the aggregate of all kinds.

Rails and gallinules (except sora and coot).—Fifteen in the aggregate of all kinds, and any person at any one time may possess not more than 15 in the aggregate of all kinds.

Sora.—Fifteen, and any person at any one time may possess not more than 15.

Coot.—Twenty-five, and any person at any one time may possess not more than 25.

Wilson's snipe or jacksnipe.—Fifteen, and any person at any one time may possess not more than 15.

Woodcock.—Four, and any person at any one time may possess not more than 4.

SECOND TAXIDERMY EXAMINATION

The Taxidermy Examining Board appointed last year to ascertain the ability of individuals desiring to practice taxidermy for profits announces that the second examination will be held at Harrisburg, September 27, 1938, beginning at 9:30 A. M.

The personnel of the Board comprises of Harold T. Green of the Philadelphia Academy of Sciences, Harold Fricke, Curator of Birds, Carnegie Museum, and Michael Kelley of the Everhart Museum, Scranton.

The examination to be held September 27 will be only for individuals who applied for Taxidermy Permits since the new law went into effect, and also for taxidermists whose work may have been questioned during the past twelve months.

Persons desiring to compete in the examination should write the Game Commission, Harrisburg, for an application blank, which must be filed well in advance of the date of the examination.

Farmers and sportsmen in New Jersey are cooperating with their Fish and Game Commission by salvaging pheasant eggs from nests that have been mowed over in hay and grain fields and abandoned. The eggs are placed under a setting hen or kept warm through other means until delivered to a game warden who arranges for their final incubation.

Note: According to New Jersey game authorities, the eggs can be kept warm if a hot-water bottle, with water at a temperature of 105 degrees is placed in a small box and covered with wool or newspapers.

CURRENT TOPICS

COLORED POSTERS DISTRIBUTED

The Game Commission distributed 20,000 colored posters during the past three months asking motorists to refrain from killing game on the highways. These placards are conspicuously posted throughout the Commonwealth. A number of the large gasoline and oil companies, realizing the potential value of such an educational campaign, have issued instructions to their agents to cooperate with Game Commission officers in displaying these placards.

The Commission also prepared and distributed 10,000 colored posters citing the usefulness of birds in destroying harmful insects, and urging the public to protect their feathered friends in every way possible.

LOTS OF RABBITS THIS SEASON

Reports from all over the field indicate an unusually large crop of young rabbits this year. Because of their abundance Game Protectors are being forced to trap rabbits off of private areas to relieve damage to truck patches and small nurseries. Aside from box trapping them game authorities suggest that individuals having damage try using the following recipe to keep rabbits from damaging cabbage and other plants.

Simply crush a double handful of garlic tops, put the crushed garlic in about ten quarts of water, let it stand overnight, and then sprinkle it over the plants, stirring the mixture well before doing so. This recipe worked very satisfactorily for one Game Protector in quite a few cases.

Bobwhite quail are also being observed in greater numbers than for the last two or three years. It seems that the birds are again re-establishing themselves after the terrible destruction of the severe winter of 1935-36.

BOUNTY CLAIMS FOR JUNE

During June 396 bounty claims were brought to the Game Commission and required an expenditure of $811. The claims included 14 Great-Horned Owls, 110 Gray Foxes and 686 Weasels.

REFRESHER COURSES AT TRAINING SCHOOL

A voluntary "refresher" course at the Game Commission Training School has been instituted this summer for all field officers of that department interested in acquiring additional training in game management and law enforcement work. The school will run for several months ending sometime the latter part of August. During that period, groups of twenty men have been assigned the school every two weeks.

The Migratory Bird Conservation Commission has approved the acquisition by the U. S. Biological Survey of 9,895 acres of land in 14 wildlife refuges at a total cost of $84,884. All the lands are adjacent to refuges already established, and their acquisition is regarded as necessary to round out these refuges and facilitate administration.

Game Propagation in Pennsylvania is expected to reach a high peak this year. As of the middle of June, 180,081 ringneck pheasant, 16,793 bobwhite quail, 7,568 Hungarian partridge, 263 ruffed grouse, 1,872 Chukar partridge and 4,047 wild turkey eggs had been produced. Of the latter 2,270 were produced at the wild turkey farm and 1,777 on the wild propagating areas. To date there are over 32,000 pheasant, 6,000 quail, 1,700 Hungarian partridge, 61 grouse, 700 Chukar, and 1,100 wild turkey chicks in the brooders. In addition 517 wild turkey chicks have been hatched in the propagation areas.

Sportsmen having standarized equipment for handling eggs and chicks have been furnished 39,499 ringneck pheasant hatching eggs and 23,648 day-old pheasant chicks. Over 700 day-old quail chicks have also been shipped to sportsmen this year as an experiment. Results obtained this year, are considerably better than those obtained during the same period last season, and if the same ideal conditions continue a new record will have been set for 1938.

During the coming antlerless deer season, the Commission urges hunters to cooperate by removing the deer in *outlying farm districts* where they do not belong. Such cooperation will reduce the herd and relieve deer damage to farm crops.

Gov. Hugh L. White of Mississippi has reappointed W. E. McIntyre as Chairman of State Game and Fish Commission to serve another 6-year term. Mr. McIntyre has been connected with the Mississippi Commission since its creation in 1932.

Prizes totalling more than six hundred dollars were awarded inventors and trappers in the humane trap contest which is sponsored annually by the American Humane Association.

For eleven years, through these contests, the American Humane Ass'n., has been making a world-wide search for devices that will trap animals with a minimum of suffering. Years of research have brought nearer the goal of enlightening the world concerning true conservation and the justice due wildlife.

This year a special prize of fifty dollars, donated by a friend of the Association was given to Vernon Bailey, nationally recognized naturalist, in recognition of his untiring and intelligent efforts in furthering the humane treatment of mammals and birds.

The regular prizes were divided into three classes as follows; trap for holding animals alive and unhurt, for the leghold class of trap D, and for traps which kill humanely.

A Texas hunter was fined $50 recently by the Federal court at Galveston, Texas for hunting mourning doves without a plug in his shotgun. Under the Migratory Bird Treaty Act regulations a hunter shooting migratory birds must first plug his gun so that the magazine and chamber combined does not hold more than three shells.

In addressing the jury that found the hunter guilty, the court stressed the necessity of regulations for protecting and conserving wildlife.

The appointment of Albert M. Day, biologist of the U. S. Biological Survey, as chief of the Survey's new division for administering the Federal-State cooperative wildlife-restoration program was announced by the U. S. Department of Agriculture. Before being assigned last November to work out plans for the cooperative program, Mr. Day was in charge of the Section of Predator and Rodent Control of the Bureau's Division of Game Management.

The Survey's new Division of Federal Aid in Wildlife Restoration has three sections—Land and Structures, Program Planning, and Apportionments and Statistics. Robert M. Rutherford, of the Bureau's Division of Land Acquisition, will be in charge of the Section of Lands and Structures. Paul J. Miller, a biologist in the Division of Wildlife Research, has been named an assistant in the Section of Program Planning. Appointment of a person to be in charge of this section will be made shortly. Guy W. Lane, an assistant in the Section of Law Enforcement, Division of Game Management, is now in charge of the Section of Apportionments and Statistics.

Mr. Day joined the Biological Survey in 1919 as a field assistant in rodent control in Wyoming. Later he was in charge of cooperative work for controlling injurious mammals in Wyoming and part time in Nebraska. After transferring to the Bureau's Washington Office in 1930, he was placed in charge of the Section of Predator and Rodent Control. In conducting this work Mr. Day became well acquainted with wildlife problems and was frequently called upon by State game officials for advice. He holds a B.S. degree from the University of Wyoming.

In reply to numerous complaints of rabbit damage to truck patches, Game Officials prescribed the use of either a creolin or tobacco spray or hydrated lime. Persons who have used these preventatives report that in almost every case an application or two has resulted in keeping rabbits away from the vegetable patches. None of these ingredients cause any injury to the plants—in fact they help them materially.

Persons who have difficulty in controlling the number of rabbits around their gardens, after repeated attempts to discourage the animals, should enlist the services of their local Game Protector. In many cases it has been both practical and profitable to trap such animals for release in more desirable areas.

CURRENT TOPICS



Executive Director Gordon, of the Game Commission, and Hons. Wm. G. Fluke and Samuel Castner, members of the Commission, at the annual picnic of the Consolidated Sportsmen of Lycoming County.

A stomach analysis of all hawks and owls submitted to the Game Commission for bounty is being made by Game Officials to determine the food habits of various species, a detailed report of which will be published in the near future. Many unusual and interesting incidents have been brought to light as a result of the studies, which are being made by John Langenbach, Biologist, Division of Game Research and Distribution.

As of May 31, the total number of hawks and owls submitted during the past year and examined are as follows: 792 Great Horned Owls, 35 Longeared Owls, 31 Barred Owls, 17 Screech Owls, 3 Barn Owls, 2 Short-eared Owls, and 1 Saw-whet Owl. Of these species bounty is paid only on the Great Horned Owl. There were also received and examined 156 Goshawks, 99 Cooper's Hawks, 52 Red-tailed Hawks, 52 Red-shouldered Hawks, 17 Marsh Hawks, 14 Sharp-shinned Hawks, 14 Broad-winged Hawks, 5 Sparrow Hawks, 5 Rough-legged Hawks, 1 Duck Hawk, and 1 Osprey or Fish Hawk. Of these species bounty is paid only on the Goshawk. Stomach examinations when completed will form the nucleus of a study which Mr. Langenbach expects to continue over a period of years.

Although much has been written on the economic value of hawks and owls, and although Pennsylvania protects most species because of their economic food habits, the Commission felt the study was necessary in order to determine their status in Pennsylvania. Previous surveys, as a rule, included the whole country, and did not give an adequate analysis of such food habits in Pennsylvania.

HALT THE CHEATERS

Steps have been taken this year under the new law to see that all hunting licenses are carefully and lawfully issued by the various agents. Under this system all residents and non-residents are required to produce satisfactory evidence of their citizenship and residence. Heavy fines will be imposed upon cheaters.

Every real sportsman can help to stop both resident and non-resident license cheaters by reporting to the nearest Game Protector or the Harrisburg office of the Commission, any violation that comes to his attention. Let's issue our licenses to law-abiding sportsmen only!

Another graphic illustration that Pennsylvania's deer herd is becoming too large is shown by the increase in requests of farmers for deer proof fences. During the fiscal year ending May 31, 1937, the Commission cooperated in erecting over 14 miles of deer proof fence. During the same period ending May 31, 1938, slightly over 26 miles were erected. To date almost 250 miles of such costly fences have been constructed.

The Game Code provides $10,000 a year for this purpose, but if the animals continue at their present rate of increase the available fund will be exhausted long before the beginning of the next fiscal year.

The United States Secretary of Agriculture has issued an order, *effective July 14, 1938*, authorizing the Chief of the Bureau of Biological Survey, through his Regional Directors, to issue permits to kill certain migratory birds when "under extraordinary conditions in particular communities," they are "seriously injurious to agricultural or other interests." The birds for which permits may be issued are:

Loons, grebes, herons, bitterns, waterfowl, sandhill cranes, coots, gulls, terns, pigeons, doves, martins, woodpeckers, larks, mockingbirds, catbirds, waxwings, shrikes, meadowlarks, orioles, blackbirds, grackles, bobolinks, robins and sparrows.

Such permits will be issued only after it is determined by investigation that the birds have become injurious. In Pennsylvania the issuance of permits is also subject to the approval of the Executive Director of the Pennsylvania Game Commission. The conditions of the Federal permit are:

"No such bird shall be killed under this permit except when committing or about to commit serious injury to such crop or property and it is necessary for the protection of such crop or property to kill the birds; nor shall such birds be shot at or killed at any time or in any manner not authorized by the laws of the State in which this permit is effective."

The Uniform Firearms Act of 1931, requiring special permission to transport or conceal certain small firearms, including pistols or revolvers with barrels less than 12 inches in length, shotguns with barrels under 24 inches and rifles with barrels under 15 inches, is not a Game Law.

Section 6 of the Firearms Act permits the use of pistols and the other short firearms covered by the Act, *for hunting, fishing or training dogs,* when such firearms are registered with the County Treasurer, *which we assume is the Treasurer of the County in which the sportsman resides.* The fee for this registration is fifteen cents (15¢), payable to the County Treasurer to be retained by him. This registration is good only for the year for which the hunting or fishing license with which it is registered, is issued. Nothing in the Act gives the Treasurer the right to refuse such registrations when a proper license is presented.

The registration does not authorize the privilege of using a pistol for target practice, or for any other shooting except that which may properly be classed as hunting, fishing or training dogs. To transport a pistol or other short firearm for target shooting or protection, application should be made to the Chief of Police when the applicant resides in a city, or to the Sheriff when residence is held elsewhere in the County, for a special license. The Sheriff may charge a fee of $1.50 and the Chief of Police, 50¢, except that a reduction of 50¢ must be made in each case, when applicant shows his *resident* hunter's license for the current year. These officials have legal authority to refuse to issue the license; and the rejected applicant has the right of appeal to the Court of Quarter Sessions of the County in which he resides, within 30 days.

CURRENT TOPICS

BOUNTY PAYMENTS LESS FOR YEAR

Due to an evident scarcity of certain predators, and the reduction of bounties on several birds and animals, particularly the weasel, effective October 1, 1937, the bounty drain on the Game Fund this year has been reduced by exactly $72,710.50; this despite the fact that Great Horned Owls were added to the bounty list for the first time this year.

From June 1, 1937, to May 31, 1938, there was expended from the Game Fund $54,657.50 for bounty payments as against $127,368.00 during the previous fiscal year. The number of claims presented last year numbered 17,752 against 42,190 the year before.

The greatest saving was affected by the reduction in the number of weasels submitted. Last year only 29,200 of these bloodthirsty creatures were probated as against 80,842 the year before.

This reduction became pronounced months before the lower bounty rate was established. This would indicate that the weasel population had been materially reduced during the previous winter when trapping conditions were ideal and the trappers were receiving a better price for the pelts of these animals. In addition to the reduction in numbers, it is a well-known fact that a large number of weasels were killed during the past year and not presented for bounty.

Since the State began paying bounties out of the Hunters' License revenue in 1913, a total of more than $2,465,845.00 has been so paid to the trappers of the Commonwealth.

The bounty season on Great Horned Owls and Goshawks expired on May 31, although it would be appreciated if any birds killed after that time would be sent in for research purposes. The Commission is conducting an extensive stomach analysis of all hawks and owls during all months of the year, and the lack of specimens fit for examination in the summer months has been one of the retarding factors in this important study.

Trappers in the 18 counties open to beavers during the past spring trapped 541 of these valuable fur-bearing animals. The largest number, 94, was taken from Elk County. Clinton had 56, Monroe 53, Lycoming 51, Tioga 49, McKean 35, Clearfield 30, Potter 27, Centre 26, Jefferson and Sullivan 25 each, Cameron 19, Bradford 17, Union 15, Columbia 10, Montour 8, and Northumberland 1. None was taken in Snyder County. The average value of the pelts was about $10.35 each, thereby netting trappers in the aforementioned counties in the neighborhood of $5500. The first open beaver season was established in 1934, at which time 6408 were taken in 50 counties. In 1936, 2261 were taken in 49 counties. In 1937, 1222 were taken in 50 counties. In the above years the entire state was open.

Beavers, which were once exterminated in Pennsylvania, were brought back through minor restocking operations about 22 years ago. Due to rigid protection in the interim, they have increased to such proportions that they have become a valuable fur crop.

A hunting license must be displayed on the middle of your back while hunting woodchucks (groundhogs), as Licenses for 1938 cannot be obtained until about August 20, the 1937 license and tag are valid and must be used.

Failure to comply with the above requirement of the law may cause the offender to be subjected to a $20 fine.

A CORRECTION

The poem "My Dog and I" in the July issue of the Pennsylvania "Game News" was written by Fred Everett.

The War Department at Washington has granted a license to the Pennsylvania Game Commission to exercise game management measures on approximately 19,000 acres of the Tobyhanna Military Reservation in Monroe County, Pennsylvania. Under the license, the Game Commission is privileged to establish several game refuges within the reservation, using for this purpose as much of the area as may be required. The major portion of the area will, however, remain open to public hunting in accordance with the game laws of Pennsylvania.

The Commission may plant game food-producing trees, shrubs and vines on the area with the approval of the Commanding General of the Third Corps Area.

Approximately 1700 acres of the reservation have been reserved by the War Department for military purposes, and will be closed to hunting at all times. This includes the area north of the Lackawanna Trail, between the town of Tobyhanna and a high point known as Powder Smoke Ridge. Likewise, the several firing points and impact areas required for artillery practice will be closed to the public. All areas closed will be posted with appropriate signs. Special attention will be called to the danger of touching artillery shells which might be found as shells occasionally fail to explode after being fired from the big guns, and these "duds" might explode if moved even slightly.

The Commission will maintain game protectors on the area for proper enforcement of the game laws and violations will be prosecuted in the State courts while all violations of the Military regulations will be turned over to the Government caretaker on the reservation for arrest and prosecution in the Federal Courts.

Colonel Biddle, President of the Game Commission, expressed deep appreciation for the splendid spirit of cooperation demonstrated by the War Department at Washington and the officers of the Third Corps Area at Baltimore in their compliance with Pennsylvania's request to institute game management practices and public hunting on the Tobyhanna Military Reservation.

The reservation may be reached from the Lackawanna Trail, State Highway Route No. 611, as well as from Route No. 490 between Tobyhanna and Pocono Lake, on Route No. 940 near Wagners.

WEASEL IN THE RAT TRAP

Assistant Chef Kelsey, while trapping for rats in the Game Commission's Training School garages, caught a mature weasel. Kelsey caught the animal in the well known spring trap *baited with cheese!*—R. D. Reed, Ass't. Supt. Training School.



Refuge Keeper Raymond Holtzapple, Lebanon County, examining a rabbit trap.

CURRENT TOPICS

DEER vs. AUTO

A large doe was struck and killed by an automobile on the Elysburg highway.

While driving her new car along the Cabot-Winfield road a lady motorist was astonished to see a large doe dart toward the machine. A side window was open and the animal's head crashed through breaking its neck.

C. Charles Davis, of Greenville, displayed the carcass of a large gray fox which had leaped into the path of his automobile. Davis said the fox had a ringneck pheasant in its mouth when it attempted to dart across the highway.

A startled doe crossing a highway crashed through the windshield of a moving automobile injuring the driver of the car and a companion. Both were cut on the face and neck by flying glass.

A dead doe was found in a wheatfield just off the East Sharpsburg highway. Apparently it had been killed by an automobile.

A doe deer was killed on Route 6 near Tunkhannock. On examination the doe was found to be carrying three female fawns.

A fine buck deer, with eight points already showing in his "velvet" rack, failed to yield the right of way to a fast train on the Pennsylvania line near Larimer.

Herman Dick, of Shamokin, was injured when a young doe jumped through the windshield of the car he was driving in Dry Valley, between Winfield and New Berlin.

NOTES FROM THE FIELD

Refuge Keeper Harold Harter, Pike County, reports the following:

"While trapping beaver in Monroe County with Game Protector Frantz we caught one young and one large beaver out of the same dam. We put the two beaver in a shipping crate in order to transport them to a new location. Just as soon as the two beaver were in the same crate the old beaver killed the young. From the looks of things I believe the old beaver killed its own young rather than have it captured."

Richard Rauch, Director of the Harrisburg Zoo reported that five ravens nested at Mill Creek in Cooper's Gap near Reedsville, Mifflin County, this summer.

"On May 25, Floyd Morris, of Hyndman, killed a large blacksnake while cutting boundary line on State Game Lands No. 104 in Bedford County. Upon examining the stomach contents he found that the snake had just swallowed three young wild turkeys. This was witnessed by a number of WPA men who were working with Mr. Morris."—Refuge Keeper Albert Bachman, Bedford, Bedford County.

"Food plots planted by WPA crews are coming along in fine shape. The four WPA crews on the four game lands (69, 101, 102 and 109) have planted altogether approximately 125 food plots. These plots average 5,000 to 6,000 sq. ft. and are in places on the game lands that would be difficult to reach with farm implements; thus the food is spread over a wider area."—Refuge Keeper Fuller H. Coffin.

"On June 14, while walking along the Youghiogheny River, I saw five male Indigo Buntings within a distance of about three miles. This is the most that I have observed in one day in this section."—Refuge Keeper Geo. E. Sprankle.

Recently, I killed two rattle snakes one of which had just had a meal of three small rabbits. The other, although a much larger snake had failed to dine so well.

A WPA worker on a road project in Amberson Valley reported to me that he had seen a blacksnake coil itself around a rabbit and crush it till the entrails were squeezed out. Later he killed the snake.—Refuge Keeper D. H. Franklin.

Standing on "Top Rock" overlooking the Delaware at Kauffmans Hill in Bucks County I watched a pair of Duck Hawks feeding their young.

The nest was on a small ledge against the almost perpendicular 350 ft. cliff, about a hundred feet below and some distance off to the right of where I stood. This seemed to be the only spot from which the nest could be seen from above.

At this distance I could not tell, without a field glass, just how many young birds were in the nest—probably two or three, covered with a white down.

The parent birds would drop down from the sky, seemingly from nowhere, with food which they would tear into bits and distribute to the hungry mouths, then up and away across the river and high above the Jersey hills in about the swiftest flight I have ever seen. It only seemed a few moments until the bird was out of sight.

Duck hawks have been nesting here since no one knows when. In 1929 when I first visited this spot I was told that a noted Naturalist had, a short time before, lost his life trying to collect the eggs of this rare bird. His rope broke and he fell to the highway 250 feet below.—Frank P. Plessinger, Amaranth, Pa.

"On June 24, 1938 while bicycling on Route No. 522 ½ mile south of Fort Littleton in Fulton County Messers. Ralph McCoy and Gilbert Colledge both of Fort Littleton saw 4 half grown skunks in the side ditch of the road. One was apparently injured. Two of the others would squeeze in from each side of the injured one and lift it clear from the ground. The fourth one pushed from the rear with its head and in this manner the procession proceeded up the bank and out of sight and to a place of safety. Another example of nature's methods of aiding one of her kind when in distress.—William Lane, Traveling Game Protector.

"On July 3rd, between 8 A. M. and 5 P. M., there were 505 cars with 2,020 people visited in the vicinity of Game Lands No. 505. July 4th, between 8:30 and 5:00 there were 572 cars with 2,300 people. Recently Mr. Henry Clark, of Tennessee, a Civil War Veteran, 93 years old, visited the Game Lands.—Refuge Keeper, William Matthews.

"Albino deer are getting more plentiful in this locality. I have seen five different ones on State Game Lands No. 29 this spring."—Refuge Keeper John Hopkins.

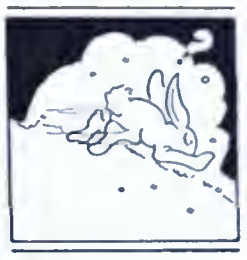
"One of the men on WPA job at Jack's Corners near Woodburg, looking for water in Refuge 73-B, saw a large black bear, also 3 bucks with horns in velvet and a small fawn, traveling through a small portion of the refuge. —Refuge Keeper, E. W. Turley.

"On July 14, Refuge Keeper Raymond Sickles and I were patrolling refuge line 51-A, when we noticed a large black snake on top of a stump at the edge of the refuge. I shot the snake but it started to crawl into a small hole in the middle of the stump. While Mr. Sickles was trying to pull the snake out we heard a rattle snake very close. We found it coiled about 5 feet from the stump on which the black snake was lying. We killed it and it measured 49 inches long. The black snake was 5½ feet long. We cut the rattle snake open but found it contained no food."—Refuge Keeper George Sprankle.

"On July 8, while driving along the National Highway, I stopped to watch two rabbits feeding along the road. They were eating white clover and seemed to be paying little attention to the cars that were passing within a few feet. One of them started for the road, so I thought it about time to chase them into the woods. I was able to get within three feet before they hopped into the brush."—Refuge Keeper George Sprankle.



SPORTSMEN'S QUERIES



By CHAS. F. STAMBAUGH

RABBIT HOUND FOR WOODCOCK HUNTING

Q. Is it legal to use my rabbit hound to hunt woodcock during the woodcock season?
R.W.—St. Marys, Pa.

A. It is, provided the hound does not at any time prior to October 31st pursue rabbits, or other small game not in season, while its handler has a shotgun or rifle in possession. This situation would constitute a technical violation of the law, subjecting the hunter to a fine of $10.00 for each offense. If it is possible to keep your hound strictly on the scent of woodcock, you will be within the law.

* * *

CONCURRENT SEASON ON BUCKS AND DOE

Q. Kindly advise the year that the State Game Commission allowed a gunner the privilege of shooting either a buck or a doe deer on the same day in the same two-week deer season. Also, was there ever issued a Special Doe License at a cost of Five Dollars ($5.00)?
R.E.K.—Pittsburgh, Pa.

A. During the deer season of 1931, which was December 1 to 15, it was legal to shoot either bucks with two or more points to an antler, or antlerless deer weighing more than forty (40) pounds. The only deer protected during that fifteen-day season were spike bucks, and fawns under forty (40) pounds. The Game Law of 1923 provided for a special antlerless deer permit at a cost of $5.00. In the Fall of 1923, one hundred (100) of these permits were issued in Franklin County, at $5.00 each, and in 1924, four hundred fifty-six (456) were sold in Huntingdon and Mifflin Counties, at $5.00. In 1925, the fee was reduced to $2.00.

* * *

USE OF .22 CAL. RIFLES FOR DEER HUNTING

Q. I notice in your July number of the GAME NEWS, under Sportsmen's Queries, that a .22 Cal. Hornet Rifle may be used for hunting large game. Turning to Game Law of 1937, Section 724, paragraph 2, "any elk, deer or bear may be legally killed only through the use of a firearm which discharges a single bullet not less than a .25 cal." Will you please clear this up through the columns of your magazine?

A. If you will refer to the very beginning of Section 724, you will note that the entire section applies only to the "Killing of Game Destroying Property", and is not applicable to big game hunters during the regular open season. Paragraph 2 of Section 724 requiring the use of a gun discharging a bullet of .25 Cal. or larger for killing big game, therefore applies only to farmers and orchardists who find it necessary to kill such game as a protection to property. It does not in any sense apply to the deer hunter in the open season; his hunting methods are covered by Sections 704 to 708, and we find nothing in there to regulate the size of rifles.

* * *

POSSESSING SKUNKS IN CAPTIVITY

Q. How can I secure a permit to keep a couple of young skunks as pets? The mother skunk got hit by a car and killed.
Mrs. M.G.W.—North East, Pa.

A. Sorry, but the Game Law forbids the possession of skunks taken in closed season, and the Commission cannot issue a permit for that purpose. Skunks may be killed anytime when they are found within city or borough limits, and the carcasses disposed of in any manner the persons killing them see fit; but there is nothing in the law permitting the capture and possession alive of skunks within those limits.

* * *

THE FIRST OPEN SEASON ON RINGNECK PHEASANTS

Q. (1) When were ringneck pheasants first open to public shooting in Pennsylvania? (2) What year was the first hunting license issued? (3) How many hunters are there in Pennsylvania? Trappers?
V.S.—Allentown, Pa.

A. (1) Ringneck pheasants (males only) were first open to hunting in Pennsylvania on October 15, 1902; the season continued two months until December 15th. (2) The first hunting licenses were issued in this State in 1913. (3) More than 600,000 resident hunters licenses were issued in Pennsylvania in 1937. Considering those who hunted legally without a license on their own home grounds, and non-resident hunters, there were undoubtedly more than 650,000 hunters in this State last year. Trapping experts estimate the number of trappers at 60,000.

* * *

SPECIAL PERMITS FOR ARCHERY HUNTING

Q. (1) Is it necessary to have a special archery permit to hunt small or large game on any public hunting ground? (2) Must the archer confine his large game hunting to the special archery preserves? (3) Does his archery permit allow him to hunt large game off the preserves?
K.A.W.—Bloomsburg, Pa.

A. (1) No. The special permit is required only on the two archery preserves set aside for the exclusive use of archers. The special permit gives the archer or bow and arrow hunter the exclusive privilege of hunting on the special preserves unmolested by the hunter with firearms. (2) It is permissible to hunt with bow and arrow anywhere in Pennsylvania, for large or small game in season, but the special permit is required on the two archery preserves. (3) This permit is not required to hunt large game off the special preserves, but the bow and arrow hunter must have the regular hunter's license.

* * *

LEGAL HUNTING WITHOUT LICENSE, BY BOY UNDER SIXTEEN

Q. May I hunt woodchucks on our own property, or on our neighbors', if I get permission? I am nearly 15 years old, and shoot a .22 rifle.
A.S.—Pleasant Mount, Pa.

A. The Game Law gives persons actually residing upon and cultivating lands, regardless of age, the right to hunt thereon for woodchucks and other game in season without a license. Under those conditions, one may also hunt on all adjoining lands, with the consent of the owners. Until you are sixteen years of age, you must be accompanied by one of your parents or some other member of your family over twenty-one years old while hunting on adjoining lands; but you need not be so accompanied on your own home grounds.

* * *

TWO GROUPS HUNTING FROM THE SAME DEER CAMP

Q. Is it possible for an organized deer camp to make more than one roster, and stay at the same camp at the same time, but not hunt together?
W.A.—Rothsville, Pa.

A. No. The present Game Law provides that it is unlawful for any body of men, either CAMPING TOGETHER or hunting in unison for deer, to kill or possess in one season, more than the legal big game camp limit, which is six deer. Under this provision, it is in our judgment unlawful for two separate hunting parties to hunt from the same camp headquarters at the same time, and maintain two rosters, with the expectation of killing twelve deer. The only way the two parties could each kill six deer would be for them to occupy the camp at separate times during the season, and not at the same time.



A representative of the Game Commission addressing delegates to Schuylkill County Federation of Sportsman's Clubs.

WITH THE CLUBS

FIELD TRIAL

A one-day field trial will be run on liberated pheasants at Eldred, Pennsylvania, twelve miles southeast of Olean, New York, on Sunday, August 28. The following events are scheduled:

Open Derby—Open to Pointers and Setters, whelped on and after January 1, 1937. $2.00 to enter and start. Silver trophies to first, second, third and fourth places.

Open All-Age—Open to Pointers and Setters, regardless of previous winnings. $3.00 to enter and start. Silver trophies to first, second, third and fourth places.

Open Shooting Stake—Open to Pointers and Setters. $2.00 to enter and start. Silver trophies to first, second, third and fourth places.

DRAWING—The drawing for the Open Derby will be on Sunday morning at the clubhouse on the grounds at 7:45 a. m. We advise mailing in the derby entries.

The Perry Township Game Association organized May 17, 1937 with a nucleus of 17 members has grown to 113 within the period of a year.

The club is very active, meeting regularly the last Tuesday night of each month, at which time some special social feature and entertainment is given in connection with the business session.

The Pennsylvania State Archery Association will hold their eighth annual Championship Tournament Sept. 3, 4 and 5 at Allentown. The tournament will attract the leading archers from all sections of Pennsylvania and neighboring states.

One of the highlights will be a public demonstration and lecture by Russ Hoogerhyde, who has held the National Championship of the U. S. four times, and is considered one of the most spectacular archers in the world.



Photo courtesy "Williamsport Grit"

A bench show attracted a great many dog enthusiasts at the annual picnic of the Consolidated Sportsmen of Lycoming County.

The Bucks, Montgomery County Coon Hunter's Club will hold their fall field trial October 1, on the Eastern State Penitentiary grounds, Gratersford, Pa. Arrows will be placed on Routes 73 and 29 pointing to the entrance.

The first annual Coon Dog Trial of the Cambridge Springs Sportsmen's council will be held at the Willis Grove Picnic Grounds, four miles east of Cambridge Springs, on Sunday, September 25. Exhibition trap shooting by Winchester Experts will be an added attraction.

The Consolidated Sportsmen of Lycoming County, with 2,500 members, have initiated a scheme to protect their dogs. They tatoo a number one quarter inch high in the right ear of the dog and have it recorded. Thereby providing a method of identifying lost or stolen dogs.

The club suggests that if any other organization adopts this plan, they use a letter or mark of some description before or after the number to save conflicting or duplicated numbers in the State.

Anyone wishing any further information concerning this method, may obtain it by writing Carl C. Rosser, 1300 Rural Avenue, Williamsport, Pa., recorder of dogs for the Consolidated Sportsmen of Lycoming County.

The Conneautee Range Sportsman's Club held their first anual outing July 17th. A picnic was held for members and guests after which entertainment in the form of trap, pistol, rifle and archery shooting were held.

"Conneautee Range" is situated one mile North of Edinboro, and consists of 125 acres on Conneautee Creek. The Club is interested in competitive shoots, and would be glad to contact clubs, relative to arranging matches.

WITH THE CLUBS

The Secretary of the International Association of Game and Fish received the following letter at its session at the Battery Park Hotel, Asheville, N. C.:

DEAR SIR:

Will you please read the following remarks, and if approved by your Great Organization, a great deal of good can be done by its members. The subject is nothing more than:

"The Yellow House Cat"

If one of your children had tooth-ache, another, stomach-ache, the baby a skin disease and your wife had "Fleas", it could all be attributed to the "House Cat", (such a pretty little kitten he was.)

Both the tooth and stomach-ache could be caused by eating too much poison used to control insects on vegetables,—for you know that hundreds of tons of insect poison are being used on vegetables and if we had plenty of birds this would solve the problem to a great extent; you also know the greatest bird hunter in the world is the Cat, house or so called stray cats.

We have done away with several of these visitors, and all but one was a male cat, consequently we have more than double the amount of birds around our place this year than ever before. A cat has a terrible strong jaw and does not stop at crushing the bones of young birds and they have a very large mouth; if you ever watched one yawn between bird eatings you could see, that if a man's mouth was as large as that of a cat according to size of body, then it would be dangerous for a small sized Dentist to work on that man.

There are lots of the finest sportsmen that do a moderate amount of hunting and fishing and if each would take an annual allotment, say (five cats), lead poisoning is most efficient. In a few years watch results.

With kindest regards to your organization,

Very respectfully,
N. O. CATS,
P. O. Box 265
Oteen, N. C.

The members of the Lattimer No. 2 Game Club have adopted as their slogan "Where there's food, there's game." Following their slogan they carried on an extensive feeding program during the winter and planted several food plots this spring.

The fourth annual outing of the Edgely Rod and Gun Club will be held September 11 at Edgely Park.

Many forms of amusement are on the schedule, including blue rock shooting, .22 rifle match, quoits, races, etc. Prizes will be awarded all winners including the novelty events for women and children.



Photo courtesy Dr. John J. Koehler, the League's President

Brooder houses and young pheasants on game propagating farm owned by Erie County Sportsman's League. Insert shows Edith Howard, niece of the League's secretary, Paul Howard, holding a splendid ringneck rooster.

A LETTER FROM A READER

DEAR SIRS:

An item which should be mentioned in GAME NEWS is as follows. I was showing some moving pictures at the Chambersburg Rod & Gun Club and our local Game Protector William Britton was in attendance. He noticed three small boys sitting on the steps outside and trying to see and hear the club meeting, etc. He left his seat and ushered the boys into the meeting place and announced that he had brought three visitors to the club meeting. This is the proper spirit in interesting even young boys in game clubs, etc. The point is that "Bill" Britton is on his toes and alert to the real needs of education no matter how young the person or how little interest is shown as long as any interest is shown and I hope all the game protectors in the state are as careful to cultivate *Boys* as they will some day hunt, fish and develop interest in game and its problems. I have no objection to using my name in this recommendation and hope that it encourages Bill and any other game protector to be on the job 24 hours a day in the interest of game, etc.

S. C. HOUSTON,
Fayetteville, Pa.

Dr. John J. Koehler, President of the Erie County Sportsman's League reports the following:

"We have over 3,500 ringneck pheasants on our game farm and 30 quail. On Wednesday, July 27 we released around 1200 birds under the supervision of Game Protectors Mosier, Miller and Refuge Keeper Coffin and our County Deputies. The county is divided up into 16 districts and the districts with the most members receive the most birds. However, the whole county will be stocked regardless of memberships, although we felt it to be an incentive to get more members if the hardest working district got more game for release.

"Egg production amounted to 6500 eggs which were given out to members who in turn took them to the hatchery or else put them under setting hens to hatch.

"We held our summer picnic at our game farm Sunday, July 17 at which time we dedicated the farm. The highway patrol estimated from 10,000 to 15,000 people present.

"Our annual field day will be held at the game farm, Sunday September 18 for which a complete program has been arranged. We hope to better our record crowd of 10,000 people last year. An invitation is extended to everybody. The acreage around the farm has been set aside as a propagation area, while the field day grounds have been approved as a dog-training area. At the present time our membership is 3,090."



He got up on his hind legs.

THE BEAR FACTS

By

MALCOLM EAGLES RUNYON

WAIT a minute . . . don't judge what I'm telling you by the bore of the gun . . . I didn't expect to come back with a black bear when I set out with my five pound, single barrel twenty gauge . . . Ask Tony-the-barber who runs the one-arm lunch on the Pike—he saw me . . . yes, and the heaviest shot was rabbit-load!

It can't be done, eh? . . . Well, this is how it WAS done! Last week Leonard and I set out for Black Squirrels. They're scarce around these parts, but there's still a sight of them where the beech nuts, or where the seeds in the cones of the softwoods give them plenty to eat. And in the fields along the edges you sometimes kick out one of those Jack-Rabbits that will lie with nose sticking up from his dugout and start like a sixteen-cylinder . . . deer there too; but bear mighty rare.

At sunrise we drew into Tony's for breakfast. When the ham and eggs were put away and we were leaving I yelled to the short-order man Wallyo, "Where's the boss?" But Len's old bus made such a racket that all I heard was something about "Mussolini" and that the proprietor had gone to "hunta da bear." I judged the connection lay in some kind of Italian celebration: the little Fascist was always on the alert for that sort of thing.

That kind of hunting didn't appeal to me. Black squirrels are as near as I care to come to black bear, and from now on I'm giving that country a wide berth. It's great stuff I suppose . . . in the northwest country . . . to draw a bead on one, say at two hundred yards . . . especially when there's something impassable inbetween . . . but when one sneaks up on *you* and growls in your ear . . . WOW!

As I was saying . . . we were after upland game and headed for the timber stand of an old farmer who once owned most of the township. The first time we asked to run over his land he turned us down cold, but Lennie has a way with this type. He knows their language, chins a bit; maybe buys some apples and usually gets downright chummy. On our second trip the crotchety old chap mellowed, and on the third turned us loose. On this trip he made us his wardens.

Now Leonard and I don't hunt together. He's a swell fellow, Len is, but a-field he cramps my style . . . excitable; moves too fast; shoots a couple of boxes of shells, yet usually misses his best chance. So he takes the woods and mountains back of the farm, and I go over the fields and hills across the valley. We meet at the car late in the afternoon. It works great: he hasn't sense enough to worry about me, and I always know where he is by the reports from his double twelve coming every five or ten minutes . . . least that's what it seems like.

It was one of those days you dream about. A light snow had fallen the night before . . . not enough for tracking . . . but just so that as it melted in the sunlight it took all the crackle from the dead leaves, and the starch out of the dry twigs, too.

The first field was a tawny mass of stubbled swale . . . Whizzzzz . . . one of those Jacks took off in high gear with wide open throttle. Letting ride at short range in the general direction, the gun went off as the stock hit my shoulder. Snap shooting . . . the only way with those fellows . . . mostly luck. But the hare dropped before he'd made three jumps.

I got another in the next which "set" me for the day so far as rabbits were concerned. You don't tramp all day with more than a couple of those big bunnies in your game pouch and like it!

So I turned to the high timber for squirrels. Those little black fellows are real sport if you go about it right. Not "barking" them . . . a helluva way to treat a tree . . . leaving it as though it had chicken pox. You needn't, for many of the blacks will act the same as a buck does when he's been startled . . . turn around from cover and size up what scared him . . . that is unless he's had too good a whiff of man-scent.

A black dart of a squirrel suddenly appears like a tarnished spot on a silvery-sided beech. Maybe you fire, and most likely miss . . . or maybe just as you're thinking "what a cinch" he spins around to the other side of the trunk just as a grouse does in putting a tree between on the getaway. But safe on the other side, Mr. Blackie gets curious . . . that is, if you keep absolutely still . . . thinks he'll take another look. Getting all set, he lights out in a spiraled frenzy round the beech. That's when you nail him clean . . . on the fly. And the tree doesn't get that pock-marked look that comes from being circled and popped at from all sides.

Four were in my game bag by the middle of the afternoon, and by the echoes from Len's double it seemed he was having a great time anyway. Hungry, I headed back to the car. But before it came in sight, the reverberations of a regular fusillade carried over the lowlands. Bang! Bang! . . . then another couple . . . again and again as fast as a fellow could load. Sounded like barking a squirrel, and I felt downright sorry for the tree that was getting its coat shot off.

The first thing on the road, there was Tony's red truck . . . got to hand it to those Latins for confidence . . . going after bear as prepared as that! When I got to the car, Leonard was already inside and had the engine running. He was that excited he stuttered.

His story was that as he'd been about to round up a squirrel he heard a noise behind and there was a bear. He opened up on him with all that was in his shell vest . . . birdshot . . . and kept blasting away as he backtracked. But if I know the way he shoots when nervous, he never even dusted off the old fellow. But the racket must have roused Bruin's ire for he came after him . . . chased him nearly to the auto . . . and he was then too tired to hunt squirrels any more.

Well . . . I didn't call him a liar . . . but I did think he handled the truth carelessly. I dumped the squirrels and rabbits into the back, put lunch and more shells into my pocket and set out for a little scouting . . . against his warnings.

Shortly I came to where all the shooting had been . . . fairly littered with empty shells . . . but no bear tracks. Never have seen any, anyhow. So I slid on the safety and leaned my little cannon against the back of a fine, thick old beech that was rather scratched

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THE PENNSYLVANIA DEER PROBLEM

(Continued from page 11)

offered an abundance of foods of the highest obtainable quality *showed among the two-year-olds eight and ten-point-racks, while the yearlings all had three or more well developed points on the horns* (Figure 5). Furthermore, generally speaking, individuals carried on diets midway between the two extremes just mentioned showed intermediate stages of climax antler development.

In each of the various experiments conducted during the past three years it was obvious that the amount and quality of the foods supplied to the animals determined to a large extent both their general vigor (body weight, skeletal development, coat condition, etc.) and their antler growth. Likewise, it was found that *those animals exhibiting the lowest vigor and the poorest horns were the first to shed their antlers, while those showing the greatest vigor and the finest racks were the last to drop their horns.* Here again it was noted that animals falling in the medium group shed intermediately between the two extremes.

Thus, it appears that *though basically controlled by age and complex sexual phenomena, the growth, the final extent of development, and the shedding of a deer's horns are in most cases directly dependent upon its general body vigor, which is in turn largely determined by the amount and quality of the available food supplies.*

The fourth ill effect of malnutrition relates to its possible influence upon the herd's reproductive efforts. Detailed studies concerned with this problem have been carried on since 1935, but until certain information obtained from the investigations can definitely be checked by means of controlled breeding experiments inaugurated in 1937, the results may be considered only as possibilities rather than actual facts. Thus, *though as yet not definitely proven,* it appears as if generally unfavorable food conditions, such as those now common to the greater portion of the Pennsylvania deer range, tend both to lower the reproductive rate of the herd and to result in the production of an excessive number of females among the progeny.

The reproductive rate of the herd appears to be lowered because the percentage of does annually producing multiple offspring (twins and triplets) apparently is reduced on those sections of the range where the population density is highest and food conditions are poorest. For example, during the summer of 1937 efforts were made in several districts where deer were abundant to capture as many fawns as possible for tagging purposes. With the aid of the C.C.C., 39 fawns were captured, ear-tagged and released. Of the total, only two were known to be twins, while in the case of only two others was there reason to believe that any of the remaining animals might be related. Thus, at best, on three areas where the deer population densities were relatively high and food conditions were generally poor, in only two out of 37 cases were multiple births recorded. On the other hand, within the confines of an enclosure where food conditions were highly favorable four out of five does taken during the winter months were found to be carrying twin fawns.

Numbers such as those just discussed are too small to be taken as true samples, but combined with large numbers of field observations they seem to indicate that on areas where food conditions are favorable, a large percentage of the mature does (as compared to the two-year-olds which were bred when yearlings and almost without exception give birth to only one fawn) produce multiple offspring, while on areas where food conditions are unfavorable only a small percentage of the mature females produce anything other than single fawns. Thus would the reproductive rate seem to be reduced on the heavily over-browsed sections of the range.

An intensive study (7) of the special written kill reports filed following the 1935 open season for the shooting of antlerless deer revealed the fact that the *over-browsed sections* of the range *showed female fawn kills in ratios greater than two for every male fawn taken,* while *the better sections* of the range *never showed figures as high as two to one* and in certain instances they very nearly approached one to one. *Fourteen counties, the greater portion of which were reported in the spring of 1935 to be heavily over-browsed, were open to the killing of antlerless deer with the result that 7,722 female, but only 3,721 male fawns were shot therein.* This certainly would seem to indicate that on over-browsed sections the number of female fawns born greatly outnumbered the male fawns produced, since in shooting antlerless deer sex selection is usually impossible. In this case again it is interesting to study the figures relative to the total number of fawns tagged in 1937 as 19 females, but only 10 males were recorded. All in all, therefore, it may well be that the undernourishment common to an over-browsed range results in a reduced annual fawn crop containing an excessive number of females.

The fifth result of malnutrition is that of winter losses. Pennsylvania, Michigan and other states have in recent years come to suffer the loss of many immature deer from "winter killing", even during the milder seasons such as that of 1937-38. The general causes of such losses have been carefully studied (8) and it has been found that where deer are forced to subsist during the winter months on poorer quality foods, the immature animals more or less steadily lose weight until late February or early March. Then, at the lowest point in their annual weight curve and during their period of least resistance, they are confronted with extreme daily climatic variations whereunder they succumb to pneumonia, or linger on (Figure 6) finally to fall victims of the effects of parasitization, whereas with more favorable forage conditions they doubtless could have maintained a better general condition and body weight which would have enabled them to survive.

The undesirable effects of the deer problem upon attempted forest management have proven equal to those suffered by the deer. Difficulties of this type were so severe that widespread concern over them was evidenced in the early 1920's. Today they are even more acute and cover far larger areas. The nutritive requirements of an excessive deer herd have in many sections resulted in the complete over-throw of natural forest regeneration (Figures 7 and 8) and have made forest planting activities practically impossible.

Frontz (9) and Clepper (10) have investigated the forest problem in detail. They have found that practically every woody plant, both native and introduced, now common to the forested areas of Pennsylvania is at present browsed by deer to a greater or lesser degree. They have pointed out sections where natural forest reproduction has been set back scores of years solely by overbrowsing. They have studied the effects of deer browsing on forest plantations containing from approximately 1,000 to nearly 200,000 trees of numerous species and have found them so serious as to warrant the discontinuance of reforestation on many large areas. *They have concluded that sound forest management can be successful in much of Pennsylvania only if the deer herds in those sections be greatly reduced and properly controlled.*

Also severe is the property damage suffered by agriculturists as a result of the current deer problem. The shortage of natural foods

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Figure 8. This exclosure was constructed to study the effects of deer browsing. Outside the fence the deer have prevented all hardwood growth which is abundant inside where it is protected from the deer.

THE "LAST RAFT"

(Continued from page 9)



Going over the Lock Haven Dam—a six foot drop into the dark swirling waters below.



Photos by John Bain

Just after clearing the Lock Haven Dam. All safe and sound.

Things happened so quickly thereafter, that my recollections are all too hazy. I remember going over, coming up, and swimming a short distance to a piece of driftwood. I also remember someone making futile grabs for my shoulder, catching once or twice and almost pulling me down. However, this individual, whoever it was, also succeeded in getting hold of a piece of firewood.

Floating very rapidly in the strong current, I ultimately drifted into three other individuals clinging desperately to a comparatively small piece of tree limb. Two of them I recognized instantly as being rear oarsmen, old Mr. Sunderland and Mr. Dunlap. The other man I recognized as a passenger, although I had forgotten his name. My support added a little bit more to that of the others and by keeping very quiet and virtually holding our breath we managed to keep afloat until we were rescued. We floated well over a half mile before we were picked up.

As we drifted downstream I thought of trying to make shore but soon realized the futility of such a foolhardy effort. The shore was too far off the current too swift and my legs were too numb with cold. Furthermore, all of us were gradually weakening from shock and strain. I doubt very much if we could have held out much longer.

Old Mr. Sunderland had gone overboard with his rafting axe which he managed somehow to imbed in the debris he was hanging on to. I recall Mr. Dunlap's asking me to pull it out and I yanked at it but the old gentleman protested so much that I stopped.

Thinking any moment that the debris would break apart or that someone in his weakened condition would become frantic, I attempted to remove my galoshes and succeeded in getting the left one off by careful and slow manipulation. I could not get the right one off, however, or I hadn't until a boat came to our aid.

As we floated farther and farther away those drifting around us who were gradually becoming exhausted started yelling for help and that they were drowning. I remember seeing Mr. John Bain and his wife and Mr. P. J. Strunk off to my right and below me a short distance. They were in a bad way, although Mr. Strunk, being much younger, managed to keep the trio together very nobly.

To my left also farther down and apparently well-nigh exhausted, was John Connor, the head oarsman of the front sweep. He was floating very low, chin barely sticking out, a suggestion which he yelled to us to follow. We did and rode the water a lot easier after that.

When we first started to drift away from the bridge no boats were in sight. When we were about a quarter of a mile away we saw one or two boats rescuing those near the raft and by the time we reached our point of rescue we saw a half dozen boats. Where they came from so quickly is a mystery to me.

I remember a young fellow in a yellow boat picking us up—I learned later that his name is Frank Smith, of Muncy—and I was dragged over the side. The others hung on the sides. A son of the passenger floating with us also drifted into our party toward the end, making a total of five hanging onto that small driftwood support at the time of our rescue. It took Herculean efforts to get that boat to shore, and it drifted downstream quite a distance before the oarsman finally made it. I remember asking him to let me row, telling him I was almost frozen, but he told me to stay where I was.

When I left the boat and tried to scramble up to shore I couldn't stand up, and a young fellow who was supporting John Connor just a few yards ahead of me took the two of us, staggering, up to a neighboring farm house where our clothes were pulled off us so quickly we didn't know what happened.

Blankets were thrown around us and we were given whiskey and other stimulants and put to bed with hot water bottles at our feet. Fortunately two doctors were in attendance and they saw to our needs constantly. As soon as our condition permitted we were wrapped in blankets again, carried to cars and taken to the Hotel Stover, at Muncy, where we were again placed in bed and given more stimulants. Later Game Protectors O. M. Pinkerton, Frank Crosby and Robert Latimer came to the hotel with clothes for me and by the time I was dressed Bud Greenwood and his mother arrived from the Game Farm, put me in their car and took me home with them. My wife found me there shortly afterwards.

I had lost everything, cameras, equipment, films etc. The cook salvaged all the films and placed them on the bank after the raft was snubbed following the accident—several cans and square boxes of movie film and a number of 4 x 5 film packs in yellow boxes, but souvenier hunters took all of them but one movie roll which my assistant found later, and a color film which Mr. J. S. Ferman, veteran woodsman and member of the party picked up. Fortunately I had mailed all my movie film exposed between Clearfield and Renovo—700 feet—into Philadelphia from Renovo or it too would have been lost.

The one thing that impressed me more than anything else was the efficient manner in which the farm people along the riverside administered first-aid. I was taken to the home of Mr. and Mrs. V. S. Fenstermacher, where all the men and women joined hands in making everybody comfortable. I remember particularly the efficiency of Dr. J. E. Spalding and Dr. Sarah Hall of Muncy, and a Mrs. Blanche McCarthy. Other riverside residents rendered just as efficient service to other survivors. Unfortunately I do not know the names of those good people.

The officials at the Hotel Stover and local as well as imported nurses likewise deserve much credit. The Sea Scouts, true to the ideals of their organization, rendered noble service in rescuing people close to the raft immediately after it struck. All in all the services rendered in all capacities more than ever cemented my faith in human nature.

People may fight with each other, or fuss or bicker and all that sort of thing under normal conditions, in fact next door neighbors might not even speak to each other at any other time, but when an emergency or crisis arises, when the lives and comfort of other people are at stake, petty differences are rapidly forgotten in their united efforts to be of assistance.

Only one episode tended to mar the heroic work accomplished after the catastrophe. I

THE "LAST RAFT"

remember, as I was being led up the river bank toward Fenstermacher's house, observing a number of people laughing. Imagine anything as ridiculous as that—with other people still fighting for their lives in the river!

I had only been at the Game Farm a few minutes when my wife came in. I suppose I wondered at the time how she had gotten there so quickly, for scarcely an hour had passed since the crash, and it is a good two and a half hours drive from Harrisburg to Williamsport. I learned from her later, however, that my assistant, Mr. Gordon Krieble and his wife had stopped at the house Sunday and coaxed her to ride along up the river in the hope of seeing the raft at some point near Sunbury or Northumberland. In other words, she was on her way to the scene of the catastrophe—not knowing it—when it happened.

Next morning I received well wishes from Colonel A. W. Lee, Game Commissioner at Clearfield, who together with Adjutant General Frank B. Kerr and James N. Morton, of the Game Commission, were instrumental in getting me a berth on the raft. Shortly afterwards, Mr. Samuel Castner, Game Commissioner from Williamsport, came to the Game Farm to see me. Later we revisited the scene of the accident, running a veritable gauntlet of State Motor Police who had already been officially organized at the scene of operations, had their wireless up, and were helping supervise local residents and others in dragging for the bodies of the victims, six of which were still missing. One man was dead from shock when they took him from the water.

Mr. Krieble and I went down to the raft and made a further search for films, but didn't find any. We then proceeded to Harrisburg where subsequently I took a severe bronchial cold and other complications from shock and had to convalesce for over a week. In the meantime, the raft came all the way down, Bud Connor, Mr. Sunderland, and Claude Fulton, the cook, being the only original crew aboard. They and Mr. Bain came to see me soon after the raft landed above Harrisburg. I had the last part of the voyage recorded by Mr. Krieble.

All bodies of the victims were found although some were in the water several weeks. One of the victims, Mr. Malcolm McFarland, I learned was an uncle of one of my closest associates in the Game Commission, Mr. Richard Gerstell. Dragging, blasting, diving, and many other practical methods of bringing the bodies to the surface have been employed, and it was believed that some were caught fast to debris at the bottom of the river, or around some of the old submerged piers, a number of which I understand still remain.

Quite a few Game Commission officers rendered valuable assistance following the catastrophe by helping local rivermen and State Motor Police make the survivors comfortable and searching for victims. They are: O. M. Pinkerton, Robert Latimer, Leroy Gleason, Frank Crosby, Mark L. Hagenbuch, Leslie H. Wood, Hugh Baker, George Diffenderfer, W. G. Zellers, L. R. Whippo and Game Supervisor John B. Ross; also Fish Warden Carl Bidlespacher.

In closing this narrative I wish to pay tribute to those who lost their lives on that illfated day of March 20. Nothing anyone can say or do will ease the heartache of their loved ones. It was a sad climax to a noble undertaking. If we but understood the workings of the Almighty. His wisdom endureth forever. Those who passed into the Great Beyond were: Harry C. Connor, Burnside, Chief Pilot of the raft; Dr. Charles F. Taylor, Burgess of Montgomery; W. C. Van Scoyoc of Philadelphia; Thomas C. Proffitt of Chester, Universal newsreel cameraman; Harold Berringer of Tyrone; Malcolm McFarland of Trenton, N. J.; and W. W. Holley of Bradford, all riding the raft.

As to how the accident happened, I have been told on good authority that it was no fault of the crew. It was definitely understood we were to run the fifth span. The raft was headed straight for it when an unauthorized person called to the rear oar that they were to take the fourth span. One sweep of the stern oar got our nose into the current of the fourth span when our stern was in the current of the fifth span. We struck with the fourth timber from the side, the rear hit the other pier, and we were swept off. But bear in mind, the raft righted itself and ran the fifth span WITHOUT ANY HELP, although going through rear end foremost, proof positive that there was room to pass through.

The survivors are: Clyde Fulton, cook; R. H. Dunlap, Cherry Tree; J. L. Byers, Burnside; Frank Stevens, Clearfield Boy Scout; Harry M. Hoover, Enola, H. D. Toser, Tyrone; J. C. Cooper, Cherry Tree; George Boughter, Jr., Watsontown; George Boughter, Sr., Watsontown; Carl Fox, Clearfield; Dr. D. B. Turner, Williamsport; A. W. Grove, Bradford; Jay Fenkbeiner, Williamsport; Nina M. Rice, Eldred; W. R. McGee, McGee's Mills; P. J. Strunk, Kerrmoor; Carl Hall, Jr.; Frank Miller; Lee Hargrove; H. W. Lee, Harrisburg; James Work; John Bain, Northumberland; G. W. Barto, Watsontown; L. A. Henderson, Montgomery; John Stutzman, Williamsport; Ord Tonkin, Cherry Tree; Mrs. John M. Bain, Northumberland; Ollie Heinrick, Williamsport; H. G. Work, Media; Earnest Harner, Montoursville; W. C. Webster, McGee's Mills; John Connor, Burnside; Roger Ferno, Tyrone; Miss Etoile Rice, Eldred; John Myers, Lock Haven; W. H. Lynn, Phillipsburg; Edward Sunderland, McGee's Mills, and the writer.

It was a great venture despite its ill fated ending. It was reminicent, however, of the fate hundreds of others suffered to help develop our present day commerce.

Raft days are over now that man's ingenuity has developed other means of transportation, but the trip of the "last raft" will live in our memory for many years to come.

I have learned since that a group of boys are building another raft to challenge the voyage of the "last raft." I hope they decided to give up the idea. Not only is it hazardous—it is an effort to compete with a trip which was held near and dear to the hearts of many an old lumberman and riverman and would be nothing short of sacrilege under the circumstances.



Steamboat round the bend. A typical scene as the raft courses down stream, cook stoves going full blast.



Photos by Frank Stevens

Just after clearing the Williamsport chute. Note the entire front of the raft is covered with swirling water.

"YOU MAY AND YOU MAY NOT"

(Continued from page 15)

YOU MAY NOT:

DISTURBING BIRD NESTS

Molest the nest, eggs, or young of any game or protected bird.

POSSESSION OF PROTECTED BIRDS

Kill or possess, either living or dead any protected bird, or part thereof.

SELLING PROTECTED BIRDS

Sell any protected bird or part thereof, including the plumage.

OWNERSHIP OF GAME

Claim a wounded game bird or animal, the flight of which another hunter stops by inflicting a mortal wound.

REFUSAL TO STOP MOTOR VEHICLE

Refuse to stop your motor vehicle on a public highway when signalled to do so by a uniformed Game Protector. Penalty $10.00.

DAMAGE WHILE HUNTING

While hunting or trapping, damage real or personal property, leave gates or bars open, or break down fences.

HUNTING WHILE INTOXICATED

Hunt or trap with firearms when under the influence of intoxicating liquor or narcotic drugs. (Penalty $25.00.)

POSSESSING LOADED GUNS

Possess a loaded rifle or shotgun in any vehicle upon a public highway. Between 5 P. M. and the following 7 A. M. unloaded rifles larger than a .22 long carried as above must be in a case or taken apart and securely wrapped—except from the day before to the second day following any big game season.

POSSESSING CARTRIDGES

Possess in any vehicle on a public highway, between 5 P. M. and the following 7 A. M. a rifle cartridge larger than a .22 long or shotgun shell containing a single ball or pellets larger than BB, unless carried in unbroken carton or securely wrapped. (Open season for big game excepted.)

SHOOTING ACROSS HIGHWAYS

Shoot at game across a public highway, unless the line of fire is high enough to preclude any danger to the users thereof. (Penalty $25.00.)

SAFETY ZONE

While hunting or trapping, shoot within 150 yards of any occupied dwelling or other building, without permission of the owner or tenant. Penalty $25.00.

HUNTING SMALL GAME

Hunt small game in a party of more than 5 persons. Penalty $5.00.

TARGET SHOOTING

During any big game season, shoot at a target except one properly constructed, or a dead tree, protected by barrier so that bullet cannot travel more than 15 yards beyond the target. Such shooting is lawful only within 200 yards of your camp or other headquarters. (Penalty $10.00.)

RANDOM SHOOTING

During a big game season, shoot at random in the general direction of a human being or wild bird or animal, or in any other careless manner. (Penalty $10.00.)

HOSPITAL, PARK PROTECTION

Discharge firearms upon the grounds of any hospital, sanatorium or public park, when clearly posted against such shooting. (Penalty $25.00.)

SHOOTING HUMANS BY MISTAKE

Shoot at, wound or kill a human being in mistake for a wild creature of any description. Penalties—$100.00 to $1000.00 cash, imprisonment from one to five years, and loss of hunting rights from 2 to 10 years.

REPORT OF ACCIDENT

Fail or neglect to report to the Commission at Harrisburg within 72 hours, any injury by gunfire or bow and arrow inflicted upon another human being or yourself, unless physically incapable of making such report. (Penalty $25.00.)

YOU MAY NOT:

ASSISTANCE REQUIRED

Fail or refuse to render immediate assistance to any person you may have injured by gunfire or bow and arrow. Penalty, $100.00 and loss of hunting rights for 10 years.

ENTRY UPON REFUGES

Enter upon a State Game Refuge or Auxiliary during any open game season; or at any time of the year with firearms, bows and arrows, traps or dogs.

DOGS ON REFUGES

Permit a dog under your control to enter any Game Refuge.

TREES, SHRUBS

Destroy or remove any tree, shrub, or part thereof, from State Game Lands.

FIRES

Kindle fires, drop lighted matches, or burning tobacco, etc., on State Game Lands.

REMOVAL OF SAND, MINERALS

Remove sand, stone, clay or other minerals from State Game Lands or Refuges.

MUTILATING SIGNS

Remove or mutilate any sign or poster on State Game Lands or Refuges.

FISHING IN REFUGES

Fish in the waters within a State Game Refuge, unless the Game and Fish Commission have declared such waters open to fishing.

BOUNTY CLAIMS

Claim bounty on any predator which you personally have not killed unless some member of your immediate family or household killed it. Penalty $100.00.

TIME LIMIT FOR BOUNTY

Claim bounty on the skin of an animal forwarded to Harrisburg more than 4 months after it was killed, nor on the body of a bird forwarded more than 48 hours after killing.

WHOLE CARCASS FOR BOUNTY

Receive bounty when the whole carcass or unsalted, or undried skin of an animal is turned over to the Commission.

FRAUDS

Claim bounty on a predator through willful deception, fraud, conspiracy or misrepresentation. (Penalty $100.00.)

RETURN OF BIRDS

Expect the return of a predatory bird presented for bounty.

RESISTING ARREST

Resist arrest by force, menace, threat, or in any other manner. (Penalty $100.00.)

INTERFERENCE WITH OFFICER

Interference with an officer in the performance of his duty under the Game Law. (Penalty $100.00.)

REFUSAL TO ASSIST AN OFFICER

Refuse upon request to assist an officer to enforce the Game Law. (Penalty $10.00.)

FALSE BEAR DAMAGE CLAIMS

Knowingly file a false claim for bear damage, when said damage was done by dogs, other domestic animals, or causes other than by bear. (Penalty $50.00.)

* * *

NOTE: For further information under the Game Law not herein covered, write the Pennsylvania Game Commission, Harrisburg, Pa.

Compiled by Chas. F. Stambaugh, Head Protection Clerk.

THE CONSERVATION OF YOUTH

(Continued from page 5)

youth has been caught, not taught. Practically all old and young criminals today have only a fifth grade education and they never learned anything about conservation.

There are more than 25 million potential sportsmen and citizens in our schools today. It is our responsibility and duty as sportsmen and citizens to see that they are properly prepared along conservation and crime prevention lines. Can youth be expected to learn, without proper teaching, one species of fish from another—one species of game bird or animal from another, or the proper seasons and limits? Can they be expected to refrain from drifting into a criminal career if they are arrested for a conservation violation when they are usually ignorant and innocent of the wrong they are doing? Is one $10.00 penalty collected from an innocent youth a paying proposition when a $1000.00 enemy is made by such a prosecution? It is not good business, common sense, or judgment.

One teacher in a public school recently made a statement to me that his endeavors along conservation lines had not produced the desired results because the youths had left the school and observed some adult doing exactly opposite to that which they had been taught. Textbooks with clear and easily understood language for the average 10 year old youth will leave an impression that will offset these observances outside the schoolroom where some adult has failed to set a good example. Man has not yet learned to master himself therefore youth cannot be expected to do so unless they are given the proper training in early life when good habits are formed.

The progress that has been made during the past year, and especially in Pennsylvania, relative to conservation in the schools is very heartening. With the promise of educational authorities to give their full cooperation, textbooks on conservation will soon be a reality. This, however, is not the whole solution. Plans are now under way to form a state-wide Junior Conservation and Restoration Club which will have as its objective more and better sportsmen and citizens. Every sportsmen's association and civic club will be invited to take an active part and interest in this new boys club. The plan calls for close cooperation on the part of the administrators of the clubs and the State educational agencies.

From the doorway of the good American home and the American schoolroom will come the ultimate solution of better citizens for the future. Youth demands an outlet for the excessive amount of energy which they so richly enjoy and deserve, and with proper supervision they can become better developed physically, morally and mentally to take their place in society as respected citizens. Youth must express itself and its energy, but when that expression and energy drifts toward a criminal career some measures of repression are imperative. Only a new field of education not yet fully developed and established, proper environmental conditions for youth to utilize idle time, and proper discipline, will keep youth in the channel that will lead to good sportsmen, good citizens, and human happiness.

FOX HUNTING NOTES

By NEWBOLD ELY

ROYAL FLUSH

In a letter dated 20th November, 1611, John Chamberlain "a gentleman and a scholar" (perhaps here is whence this bouquet first sprang), wrote to a friend of his about James I, saying that "the King is hunting at Newmarket and the Queen at Greenwich, practicing for a new masque." Unfortunately this did not mean that the beauteous royal spouse was taking jumping lessons so as to help her get in on a kill, but merely that the royal jitterbug had succumbed to the stagnating pastime of a royal mask ball. However, no such mamby pamby pursuits as dances for the British Nimrod, for from his youthful gallops after his mater, Mary Queen of Scots, "the love of the chase was with him, an overpowering and absorbing passion, . . . in fact, his counsellors . . . would be required to accompany him hunting for six hours in order to get five minutes conversation with him. 'My health,' he would say, 'is necessary for the state; the chase is necessary for my health; ergo, it is doing the public a service if I hunt'." —an excellent precept for both business men and politicians today, and fishing could be included.

The irrepressible James had "distinct packs of hounds for the several kinds of chase in which he indulged—stag, red deer, roebuck, fox, wolf, hare and otter—beside ban, bear, and bulldogs, with a nobleman for their keeper; and teams of spaniels indispensable to his superb hawking establishments. These necessarily demanded a large suite of attendants, . . . there were masters of the game, sergeants of the stag-hounds, 'lumbermen' of the buckhounds, yeomen and children of the leash, tents and toils (the latter being small pages who held relays of fresh dogs at openings of the forest), keepers of the royal fishing cormorants, of the elephants, camels, and other 'tame beasts,' located in St. James' Park. The royal M.F.H. was always annoyed by spectators and one day his majesty got so 'merry against the hair' that he that very day erected a new office, and made Sir Richard Wigmore 'Marshall of the Field,' which worthy probably thereby became the original field master,—the first incumbent to that thankless office which was to go down through the centuries of hunting ever without thanks and ever an object of grapevine calumny through walrus moustaches bearing the fragrance of Hennessy three star or delicate veils redolent with Evening in Paris."

Although passing a considerable portion of his life in the saddle King James was not a very skillful horseman. . . . He had "many and dangerous falls recorded of him, through which he was sometimes at the point of death. Every precaution was, therefore, resorted to, to lessen or avert the perils incident to the headlong pace which the king fearlessly maintained in order to be well up at the finish." At the "king's express command" they were not to suffer swine to go abroad unringed which was "endangering of his majesty" and "they are also to take down the high bounds between lands which hinder his majesty's ready passage."

"Although his various kennels contained at a moderate calculation, little short of two hundred couple of hounds, and the cost of their maintenance, and equipages was a serious drought upon his privy purse, James never deemed himself properly furnished while a single hound of reputation remained in possession of his subjects. . . . His chief huntsman had a warrant to take by force every canine celebrity known to exist in three counties." A fair enough way to build up a good pack. Howbeit the goose walked rather delinquently for these royal hunt-staffs, and the state papers reveal that Sir Thomas Tyrrell the headkeeper, once expostulated: "How should the keepers live, having but £26,8s a year, and that unpaid these ten years?",—like war debts or job insurance. Whenever any of his hounds "got maimed by horse kicks, or being ridden over, etc., he vented his indignation in the most outrageous language; yet there, as indeed in almost every transaction of his life, he shewed himself as placable as he was momentarily irate." One time the good old Queen, this day hunting instead of dancing, polished off Jewell, "the king's most special and principal hound, at which he stormed exceedingly awhile, swearing many and great oaths." They were all afraid to tell the royal master who had done the damage, and finally sent "Archie the fool,"—the court jester. Albeit our salty nimrod took the catastrophe remarkable well, and even allowed his punning weakness to cause him to send his royal spouse "a jewell worth £2000" as coming from the deceased Jewell, and the local report was that "love and kindness increase daily between them, and it is thought they were never on better terms." However, cute and touching this outcome these many centuries ago may appear, we trust no hunting wives will be tempted to have "love and kindness increase daily" by galloping on any of our jewels.

THE BEAR FACTS

(Continued from page 26)

up, sat down on the other side and broke out with the grub. To polish off there was one of those pound bars of chocolate . . . must have been a fire sale in town, I thought.

I hadn't chewed three mouthfuls when I began to have that feeling . . . that sense of there being something behind watching me. I knew it was only imagination, and I wasn't going to let *my* nerves get the better of me. Still, it kept growing and growing until I positively FELT it. Then there was a sort of . . . *not exactly "grunt"* . . . but rather a kind of wheeze, and I gave in to myself enough to turn my head sideways like a kid does that's been caught in the jam, and . . . *there he really was . . . not ten feet away* . . . starting to move towards me with ursine gait.

I don't know whether my hair stood on end, but the cold sweat surely did break out. My arms and legs were as heavy as in a dream when you're trying to get away from something. The gun was entirely out of reach . . . and loaded with No. 7½ chilled anyway!

I brandished my hunting knife and shouted . . . but I wasn't fooling myself . . . I knew I wouldn't dare . . . and I couldn't stand . . . not even strength enough to try and shin up the trunk. But I got off a yell that even Frank and Tony heard.

The brute was almost to me, but that "yip" made him pause . . . HE GOT UP ON HIS HIND LEGS . . . put out both paws with nails just touching and sniffed; sniffed as if making up his mind what part of me to start in on.

My eyes had been following his movements as iron follows a magnet . . . something glittered . . . something that I might not have noticed if the animal hadn't stood erect . . . a heavy, leather-and-metal collar. Gleaming through the neck fur were some of the letters in shining brass that spelled "Mussolini."

That was *some* relief. My breath came back, and with it some strength. Now I knew why Tony was bear hunting: his main attraction at the lunch stand had taken French leave. I wasn't out of the woods yet, but I wasn't crippled with fear either.

Ripping the cover from the candy I threw him a chunk. He dropped to all fours at once and took it greedily. I let out another of my best yells and reached for the gun . . . with its rabbit load . . . still, there's something about having a shooting iron that breeds confidence . . .

Between yelling, moving as fast as I dared, and feeding chunks of the candy and my lunch I had made most a hundred yards when Len and Tony appeared. Lennie was armed to the teeth, but Tony carried a club in one hand and a thick rope in the other.

The animal had no end of respect for the Italian and was soon cajoled into boarding the truck. I had more respect for my partner's veracity than I'd ever had before, and if you haven't any respect for what I'm telling you, go ask Tony-the-barber who runs the one-arm lunch on the Pike.



He never even dusted the old fellow.

THE PENNSYLVANIA DEER PROBLEM

(Continued from page 27)

in the forested areas has forced the deer to invade not only those cultivated areas immediately abutting upon the forest edges, but many others far removed from the true deer range. There, through foraging on farm crops, the animals have caused many thousands of dollars in damage. In a few instances the inroads have been so severe that the properties have had to be abandoned.

To combat this thousands of deer have been killed by farmers when they might otherwise have offered sport for the hunters. Also, during the past fifteen years the Game Commission has been obliged to expend from the Game Fund approximately $100,000.00 for the construction of roughly 225 miles of deer-proof fences. Especially since preventing their entry upon one area frequently results only in forcing the deer onto another, it appears as if this money might well have been used for other constructive rather than defensive purposes.

(EDITOR'S NOTE: *A complete bibliography will be printed with the concluding section of this report, scheduled to appear in the October* NEWS.)

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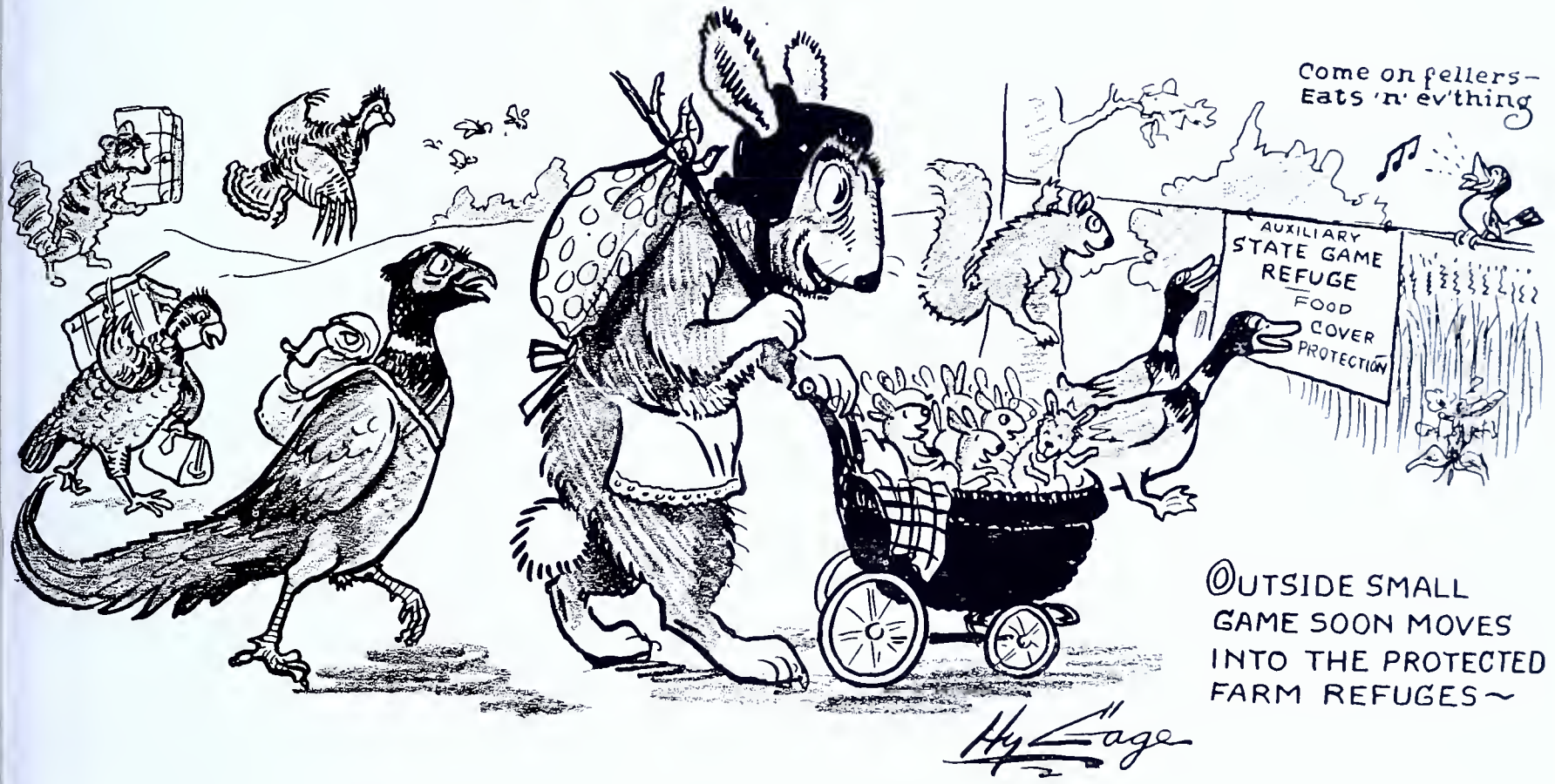
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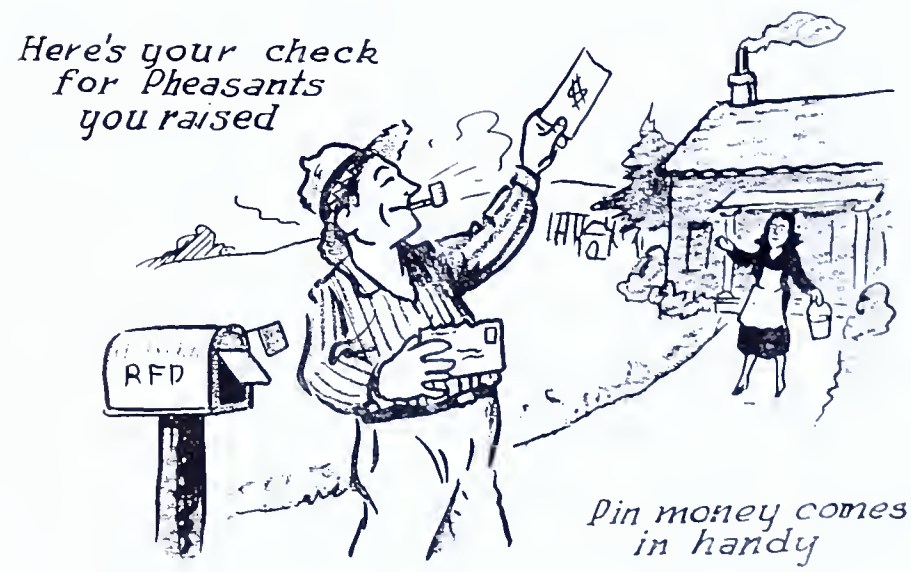
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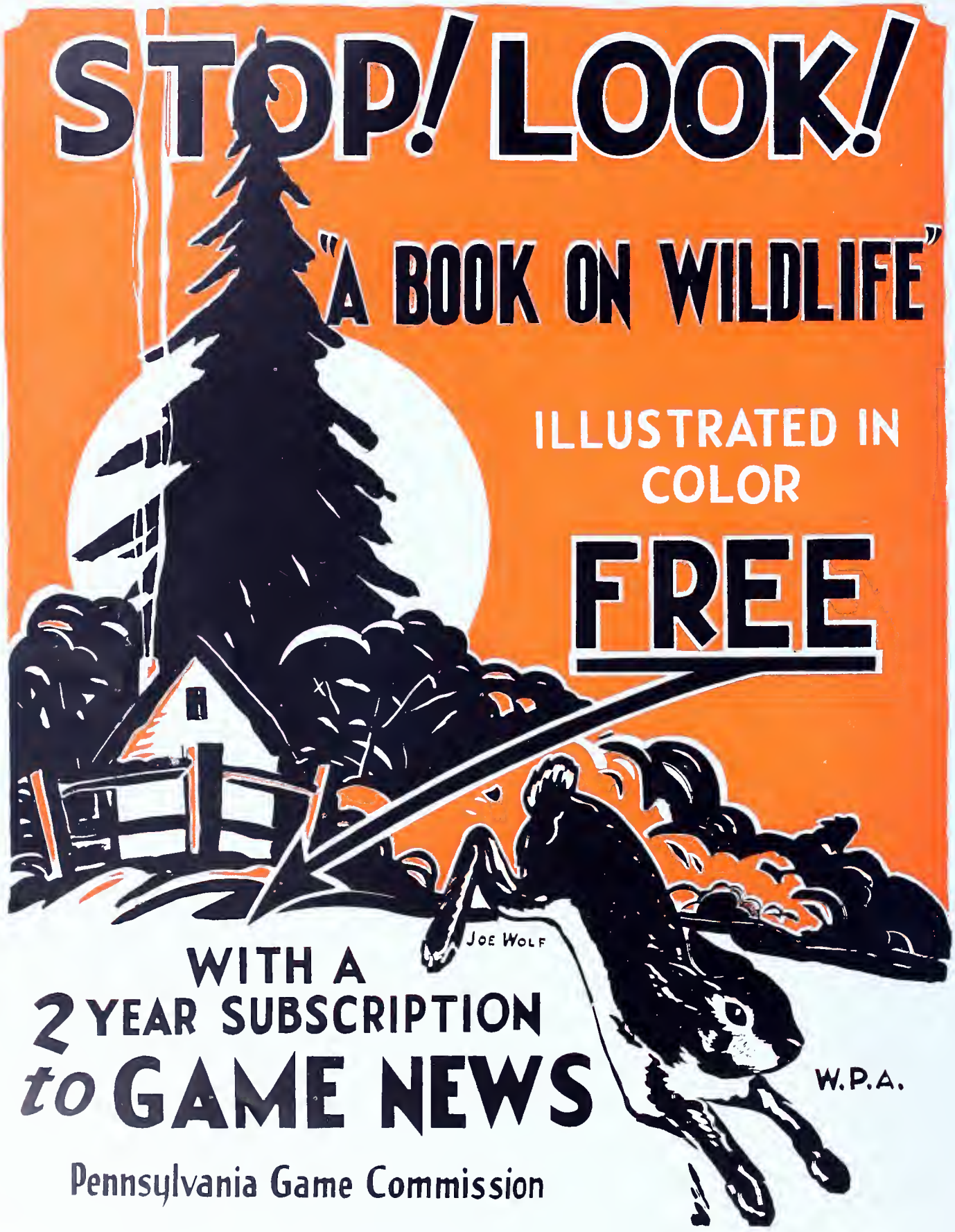
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PENNSYLVANIA GAME NEWS

Published monthly at Front and Reno Sts., New Cumberland, Pa., for Pennsylvania Game Commission, Harrisburg, Pa.
Executive and Editorial Offices, Commonwealth of Pennsylvania, Pennsylvania Game Commission, Harrisburg, Pa.

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Entered as second class matter at the Post Office of New Cumberland, Pa., under Act of March 3, 1879.

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Photo by J. W. Richards

Woodcock on Nest

Break O'Day

When the cold nor'wester's tearing
O'er the marshes 'cross the bay,
When other folks are swearing
At the weather, night and day;

That's the time when certain fellows,
Crazy folks—like you and I,
Ought to have our heads examined,
'Cause our hearts are beating high

At the thoughts of rising early,
Hours before the sun is up,
Of drinking boiling coffee
From a badly battered cup.

Then through the mud and soggy marsh
To stumble on our way
Out where the blinds are planted,
In the lake or on the bay;

There to set our wooden decoys
In the cold dawn's eerie light,
Fasten collars on the callers
Not too loose and not too tight.

Then at last the job is finished
And each man has done his part,
Then we sit and shake and shiver,
Waiting for the flight to start.

Through the mist—a flash of color —
Makes your soul and body sing,
When you knock the wily mallard
As he passes on the wing!

James A. Burke in N. D. Outdoors.

Vol. IX, No. 7

EDITORIAL

October, 1938

AN APPRECIATION

THE OTHER day I took time out briefly to note the progress of the Game Commission during my term of service as its President, now approaching four years. When I had finished I was gratified by the great number of real accomplishments, both legislative and administrative, which were made during that time. Free from political entanglements, and with the support of a Governor who is an ardent sportsman himself, we have been able to develop and adhere to a most comprehensive program of wildlife conservation.

Speaking of Governor Earle recalls the high tribute he paid to the organized sportsmen of this Commonwealth shortly after he took office. He complimented them among other things for having established two great principles: (1) that the Game and Fish Commissions be constituted and administered on a non-political basis, and (2) that the game and fish funds be preserved. The Governor also stated: "Hunting and fishing license fees are in no sense a tax. They are rather a voluntary contribution by the sportsmen of the State to the cause of conservation. It would be a breach of trust to divert them. The first of these principles I propose to restore to activity and the second to uphold. In this I ask your loyal support."

That the Governor was given that support, and that he in turn supported the program of the Commission and the sportsmen is well known. One of the important additions to the administrative legislation definitely prohibits all political activity by employes of the Commission, for a violation of which they subject themselves to immediate dismissal. This long standing policy of the Commission was written into the Game Code in its entirety further to safeguard the interests of the sportsmen.

Provision was also made for adhering to the merit system only in the employment and training of field officers, and assuring all employes a fair trial before dismissal. This system has since been adopted by other states.

The revision of the Game Code for the first time in fourteen years marked another milestone on the road to progress, and re-established the rotating or staggered terms for the members of the Commission, thus greatly strengthening its organic machinery. The game laws were also changed to fit modern conservation requirements. Much more protection was afforded hunters and landowners, and more liberal hunting privileges were allowed.

Probably the greatest step forward was the inauguration of a cooperative farm-game program designed to create a better understanding between sportsmen and landowners, and to assure more good public hunting grounds in the thickly populated agricultural sections of the Commonwealth. So successful has been this plan, and so favorably has it appealed to both farmers and sportsmen, that it will be extended as rapidly as funds permit. It not only helps the cause of wildlife but gives the landowner the protection he so much needs against discourteous, unscrupulous and often careless hunters.

Another important administrative undertaking was the intensive improvement of environmental conditions for wildlife, especially on State Game Lands, a program which in the future will be greatly expanded. An extensive program of research which better enables the Commission to "take stock" of its wildlife and regulate it on a fundamentally sound basis was another milepost on the highway of accomplishments. A widely diversified program of education also marked an important step in the right direction.

The extension of the game refuge and public shooting grounds program, increasing the production of mature stock at the Game Farms, buying more game for restocking, and the development of more modern game law enforcement practices are other mileposts along the Commission's pathway to progress.

Therefore, on the eve of one of Pennsylvania's best hunting seasons for some years, according to present prospects, I take this opportunity to thank the Governor for his wholehearted support of our cause. Grateful appreciation is also extended the members of the state administration and the Legislature, cooperating sportsmen and landowners, and other organizations and individuals interested in promoting the interests of wildlife in this Commonwealth.

Because of this united interest, and because of the accomplishments, present and potential, which have occurred to the benefit of all concerned, Pennsylvania continues her high position as a leader in wildlife conservation.—NICHOLAS BIDDLE, President.

THE LANDOWNER, YOUR HOST

IT WAS a wise philosopher who started the old saying, "Don't bite the hand that's feeding you," and no matter in what business, profession or recreation one is engaged, there are a lot of people who would be happier, healthier and richer if they obeyed that simple axiom in all its broad interpretation.

Take the sport of hunting, for instance. How much better it would be for all concerned if every hunter treated the landowner with the courtesy he deserves. Literally speaking, the farmer feeds the hunter. He not only permits him to hunt on his property but he takes care of the game. However, when unscrupulous hunters try to bite his hand by insisting on trespassing without asking permission, by allowing his cattle to escape through breaking fences or leaving bars down, by tramping over his newly seeded fields, by shooting too close to farm buildings, by killing livestock or poultry or by piling up a lot of other grievances the farmer has recourse to but one alternative. He posts his property to all hunters. Thus a few unscrupulous individuals, selfish and lawless in their practices, rob the courteous lawabiding sportsmen of more than 5,000,000 acres of public shooting grounds annually.

It is only by the most intensive good-will campaigns, sponsored by the Game Commission and many local sportsmen's associations, that some landowners are made to realize that land posting does nothing more than keep the good sportsmen off their property. It does not keep the hoodlums off!

For some months there have been rumors of increased land posting throughout the State generally. So paramount were these rumors that several newspapers made extensive surveys to find out whether there was anything behind them or not. These surveys brought to light some very interesting facts, although they did not show whether there was a general increase in land posting or not. Among other things it is interesting to note that about 98% of the farmers who had their lands posted claimed they were forced to resort to the "No Trespass" sign because of the wanton and willful destruction caused by thoughtless hunters. Many farmers, while readily admitting that local hunting clubs stood squarely behind them in an effort to help protect their property, claimed nevertheless that posting was their only recourse to protection. They also claimed that too many so-called "sportsmen" were sailing under false colors and that they had no way of telling the good from the bad.

When the Game Commission heard of the local surveys which were being made, and when rumor began to reach out its tentacles more widely, the Commission decided to investigate for itself. It instructed all its field officers to make a thorough check of all posted farm lands and posted mountain lands, dividing them into two classes. One class included posted areas on which hunting was permitted a part of the time.

When the survey was completed there was not nearly the same

(Continued on Page 28)

YOU, DAD!



YOU, Dad, have a definite responsibility in life today in moulding the character of your son.

It is not a task that should be cast aside and left to your wife; adding to the multitudinous problems of raising a family and conducting a home. Not that your wife is incapable of doing the job and doing it well—but one for which you are particularly qualified.

You have passed through the stage of childhood, youth, and possibly middle age, suffered the pitfalls that await the youth, and learned of the more pleasant and profitable things in life.

A study of the records of Pennsylvania's Juvenile penal institutions clearly indicate that a very small percentage of these child delinquents have had any training in conservation, hunting or fishing.

You, who are rearing a real, red-blooded American boy, interested in firearms, fishing tackle and camping, cannot hope that the purchase of a book, placed in his hands, will meet even his exacting requirements, while you enjoy the more pleasing entertainment of your own choosing.

Possibly he is just approaching the age when the "gun craze" has taken a firm grip upon him. How much better for both of you, could a Saturday be spent in the woods? There, with a small bore rifle—his rifle, in fact—he could be taught the greatest conservation lesson of all, that of conserving human life through the careful and intelligent handling of firearms. Think of the thrill that you will experience, when, for the first time in his life, that boy of yours squarely hits the bull's eye on the target, and the lasting memory that it was accomplished through your training. Or is it better that he should be with questionable or untrained youths of his age on unannounced escapades of their choosing, serious danger lurking in every step forward?

Or would it be better, on a cold snowy afternoon, with that faithful old bird dog, who has always been the third member of the party, to take a trip afield, looking up a covey of quail, some ringnecks or grouse, dropping a bit of game food here and there where it will do the most good beneath a shelter, teaching as you go along the habits of wild creatures, their feeding and conservation as you travel along Nature's interesting trail?

And, as he grows to manhood, after he has enjoyed his first hunting season, how much more pleasant it would be to sit by a cheery fireside, living again those memorable trips of last fall missing "His Majesty, the Ruffed Grouse," that whirled out from under a hemlock, over both your heads, or that big buck that outsmarted the whole camp, and how his tackle broke just as he was ready to slip that big "brownie" into his landing net. Or would it be better to have his frequenting resorts, the knowledge of which would tear at your heartstrings, simply because *you* have little or no interest in his pleasure?

The things you want to accomplish can be done with patience, and a human understanding of the problem; and they will result in endless enjoyment, binding you and your boy inseparably together, so that when you have departed this world for the "Happy Hunting Ground," you will leave indelibly impressed upon his mind the real spirit of comradship and wildlife conservation that grew since childhood—between a son and *you*, Dad.—W. C. SHAFFER, *Director, Bureau of Protection.*

Game-Kill Tabulation Reveals Astounding Facts

Annual Kills Larger Than Previously Estimated; License Issuance Irregularities Divulged

If ever astounding revelations were brought to light, or certain moot questions settled beyond any doubt, the Pennsylvania Game Commission's tabulation of the 1937 hunters' game-kill reports did just that—and more, as we shall see.

Over 560,000 reports out of slightly more than 600,000 licenses issued in 1937 have been tabulated, more than seven times the number received in any previous year. Prior to the compilation of these astonishing figures, appended in their entirety at the close of this article, many individuals, both among the Commission's personnel and the sportsmen generally, believed the game crop as announced annually to be entirely too high. A like number believed it was far too low.

The question was probably more debatable in the early days than in later years, for up until 1920 the Commission had to depend wholly upon the field estimates of its officers in compiling the annual kill.

Voluntary Reports Ask

In 1920 the Commission furnished all hunters with a blank upon which to submit their individual reports, which were then on a purely voluntary basis, but requiring first-class postage and an envelope. The first year resulted in a fairly good return, something like 20%, from which sample lots were tabulated to provide a base figure for comparing with the reports of field officers. However, soon after this initial attempt the hunters became very careless and failed to cooperate when they found no penalty was attached.

Reports Required by Law

In 1923, when the Game Law was codified, one section stipulated that within thirty days after expiration of the license (then December 31) all hunters must submit a report, but unfortunately the penalty was too high, namely $20.00. For that reason the law was practically unenforceable. However, the first year or so a fairly good return was received, but never a sufficient number to consider it anything like a complete tabulation. All it did was supply comparative figures for checking against field estimates.

The matter drifted along in this way until 1936, when in a special attempt to ascertain whether the holders of licenses would or would not cooperate voluntarily, the Commission appended a self-addressed, prepaid postage report card to the license. That year 537,611 licenses were issued, and a total of only 80,000 game kill reports were submitted. While this number was the most ever received, it demonstrated clearly that some other steps would have to be taken in order to secure anything approaching a complete return.

Reduction of Penalty

The Commission was frankly perplexed, and early in 1937 held a conference with the Directors of the Federation of Sportsmen's Clubs, during which the case was laid squarely before them. It was then agreed these reports are important to the management of the state's game supply, but that the penalty should be reduced from $20.00 to $2.00, then actually require each hunter to send his game-kill report to the Commission by January 15 or be fined accordingly.

The amended code was passed with this requirement in the form agreed upon, and as part of the licenses issued for 1937 (expiring August 31, 1938) the Commission supplied a special mailing blank requiring only a one cent stamp, then publicized the return requirement and the $2.00 fine very extensively, and pointing out emphatically that the penalty would be imposed if the reports were not submitted.

Promptly after the close of the 1937 hunting season a total of 419,357 reports were received out of 606,271 resident and non-resident hunters' licenses issued, or better than 65%. As in previous years, the Commission again ran sample tests of thousand lots as they came from all parts of the State for check purposes. Immediately thereafter it began keypunching and tabulating all the reports received. At the same time hunters who had not submitted their reports were requested by postal card to send them in immediately.

This being the first year that actual enforcement of the requirement was ever attempted, the Commission deemed it wise to proceed in an educational way. From the postal card notices sent to tardy individuals, 143,339 additional reports were received, making a total of 562,696 reports out of the 606,271 licenses issued. At the present time the remaining 35,000 delinquents are still being checked.

Irregularities Brought to Light

As a result of this new departure, the Commission has not only obtained a complete tabulation of its game kill for the first time in the history of the department, but it also has already uncovered appalling irregularities and deliberate violations of a very serious nature on the part of a considerable number of individuals who will not have an opportunity in the future to resort to similar unsportsmanlike practices.

Among the irregularities already discovered, it has developed that a number of non-residents, through their friends and otherwise, have regularly been obtaining resident licenses to hunt in Pennsylvania. It has also been discovered that a considerable number of unnaturalized, foreign-born residents have been securing hunting licenses, when under the law such persons are denied the privilege of hunting at all in Pennsylvania. Various other irregularities have been found, and in each case where such cheating has been unearthed proper penalties have been imposed.

Various field officers who have been conducting these state-wide investigations believe that in the future as a direct result of this check-up the revenue of the Commission will be increased considerably, and that if the 1938 issuance of hunting licenses is tightened up, as already directed, most of the former cheating will be eliminated.

This check-up also has proved conclusively that past estimates of the game kill were much lower in most cases than were believed to have been possible.

Following is a report of the game killed as estimated by field officers compared with that tabulated from the game kill reports:

	Estimated	Tabulated
Rabbits	1,924,760	3,074,820
Raccoons	30,526	29,842
Squirrels	607,522	1,056,408
Wild Turkeys	4,102	6,619
Ruffed Grouse	88,018	177,683
Ringneck Pheasants	373,121	371,526
Quail	31,696	105,795
Shore Birds	7,816	12,657
Wild Geese	(total for 29,821 wild geese & wild ducks)	2,067
		14,691
Blackbirds	43,563	78,543
Woodcock	30,271	57,244
Cats		113,839
Deer	25,009	39,009
Bears	471	912
Total All Species	3,196,696	5,141,655
Total Weight	4,269 tons	6,416 tons

The foregoing figures will be further supplemented when the checking in the field has been completed.

This tabulation does not include the game killed by the men and boys who live on our 190,000 farms who hunted legally without licenses,—probably from 50,000 to 100,000 of them, as a minimum—although a large percentage of the landowners now buy licenses regularly.

The game-kill reports for many years have indicated that a surprising percentage of Pennsylvania's licensed hunters kill no game, probably mostly men who hunted primarily for big game or who bought licenses and then were unable to go hunting. Of the 562,696 reports tabulated above, 82,040, or 15%, report having killed no game of any kind in 1937. This figure will no doubt surprise most of the readers of the Game News, as it has the Members of the Commission and its staff.

Reasons for Tabulations

Many sportsmen have questioned the need for such a complete check on the game kill. If the compilation above set forth had been the only objective, there might well be some question about the need for putting forth so much effort to secure all the reports when somewhat comparable results might be obtained from comprehensive sample lot tabulations. However, we are convinced that with the foregoing explanation of the many other things involved in this undertaking, the sportsmen of Pennsylvania will all be pleased that it was done, especially since it should eliminate from their ranks those who have been too dishonest to merit a hunting license at all.

With the information divulged by this inquiry, the Revenue Department has issued

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A typical camp limit of 20 years ago. Compare the size, weight and antler development of these animals with the average of those taken during recent years.

THE PENNSYLVANIA DEER PROBLEM IN 1938

By RICHARD GERSTELL

(EDITOR'S NOTE: *This is the concluding seetion of Mr. Gerstell's report on the deer situation.*)

HAVING briefly outlined the cause and effects of the current deer problem, the next logical procedure is to study various corrective measures which may lead to its solution.

During March and April 1938, representatives of the Division of Game Research and Distribution, assisted by the Commission's regular Field Officers, made a thorough study of deer conditions throughout the Commonwealth. This investigation was primarily concerned with the extent of the deer range, the forage conditions throughout the range, and the relative deer population densities common to different portions of the range. The information gathered from the survey is summarized on the three maps presented herewith (Figures 9, 10, and 11).

Though each of the sixty-seven counties of the State was visited and representative sections of all major portions of the deer range were studied more or less in detail, the tremendous extent of this area covered, together with the relatively small maps capable of reproduction herewith, have doubtless combined to produce certain small, unavoidable errors common to the diagrams. All in all, however, they are considered by those familiar with different sections of the range to be highly accurate.

Figure 9 shows the extent of the *"true deer range"* which is defined as *any and all composite traets of forest land not heavily interspersed with areas devoted to agrieulture and of not less than 15,000 acres in extent.* This definition has arbitrarily been selected because past experience seems to indicate that under Pennsylvania conditions it is impossible soundly to manage deer on a sporting basis on unfenced tracts which do not fall into the classification mentioned. Smaller areas will, of course, support limited numbers of deer, but not shootable populations which will not unjustifiably conflict with agriculture or other economic interests.

As shown on the map, the total area of the true deer range, which is by and large forested mountain territory, is approximately 8,300,000 acres. It may arbitrarily be broken into primary and secondary classifications as shown, and it may possibly be that eventual management will be devoted to the maintenance of a heavy population density confined to the primary range for hunting purposes and a lighter density on the secondary range, primarily for esthetic purposes.

In this respect it is interesting to know that whereas the true deer range, as defined, embraces over eight million acres of land, the *aetual range* of the deer is more than two times greater, with some animals being found in every county of the State, including Allegheny (Pittsburgh and environs) and Philadelphia (the city of Philadelphia). In approximately only seventy-five of the 1,579 townships of the Commonwealth are no wild deer now resident. Furthermore, certain counties in the southeastern and southwestern portions of the Commonwealth which lie entirely outside the true deer range each year report the legal kill of deer in varying numbers. Doubtless this unusual distribution of the species may largely be considered the result of unfavorable forage conditions throughout the greater portion of the true range.

Figure 10 shows the deer food conditions common to the true deer range to which the deer should as a rule be confined, and with which the problem is primarily concerned. As indicated on the map, general forage conditions may be classed as good, fair and poor. The good areas are those which produce upward of one-hundred-fifty pounds of deer food per acre; the fair are those sections which yield more than fifty but less than one-hundred-fifty pounds to the acre; while the poor tracts offer less than fifty pounds per acre. Detailed computation shows that approximately 18% of the true range is in good condition, that fair conditions prevail over roughly 32% of the area, while 50% of the total falls into the least desirable classification.

Figure 11 portrays the relative deer population densities common to the true range. Because as yet no practical, widespread, deer census technique has been developed, no definite population figures are available. Thus, the map has been compiled from estimates made by numerous persons by various means, but standardized according to field investigations made by one man throughout the range. Though necessarily subject to some degree of error, those sections marked abundant may be considered to be supporting densities in excess of one deer for every twenty acres of land; those marked common to be supporting densities of one deer for every twenty to fifty acres; and those marked sparse to be supporting densities of less than one deer to every fifty acres.

The information presented on the maps seems clearly to indicate that the Pennsylvania deer

THE PENNSYLVANIA DEER PROBLEM IN 1938

range is definitely limited in size, and that current conditions thereon are highly undesirable inasmuch as the greater portion of the area is now supporting unusually heavy population densities, while forage conditions in the main are poor, or only fair, and their natural state of development is such that even less favorable conditions may be expected in the years to come.

Certain parts of the range have been found to be supporting only comparatively few deer, but these circumstances are almost invariably found to have arisen where food conditions are least favorable and the range is incapable of properly supporting even the occasional deer found therein.

In general, it would seem that *until the demand for forest products once again results in large-scale lumber operations, which will increase the available supply of deer food by increasing the percentage of forestland in the brush stage, Pennsylvania cannot hope to support the tremendous deer populations common to the State during the past decade. Sound management demands an appreciable reduction of the herd and requires a constant control of the population, designed to maintain it at a point commensurate with the available food supply.*

Granting that a reduction of the herd is necessary, the question is how to bring about the desired end. Its answer requires a detailed study of certain of the numerous, interlocking details of the problem. Principal among these are the extent of reduction desired, the system of shooting to be employed, and the sex of the animals to be removed.

Because, as previously discussed, it is impossible to determine accurately the number of deer now alive within the Commonwealth, it is a difficult matter to determine exactly how many individuals should be removed from the herd. Fortunately, however, certain records, including those obtained from sample counts, the records of winter losses, etc., may be combined with information relative to the effects of past management practices to determine the relative percentage of reduction which should be strived for.

For example, estimates based on sample counts and kill records, place the total deer population of the State at a point slightly below one million head. Supposing, however, that the herd were only approximately half that size, and that it contained only 500,000 individuals, the average population density, provided the animals were confined to the true range, would approximate one deer to every 16.5 acres of range.

Since experiments now under way seem to indicate that *even where food and cover conditions are somewhat better than average, Pennsylvania forest lands will not properly support over a period of two or more years one deer to every twenty-five acres of land,* it would appear that the population might best be reduced by approximately 40%. Such an extensive reduction would, however, not prove practical because of the unusual distribution of the animals both inside and outside the true range. In certain particular sections lying entirely outside the true range it is highly desirable *to eliminate the species entirely,* but on limited areas within the true range a reduction of as little as 5% or

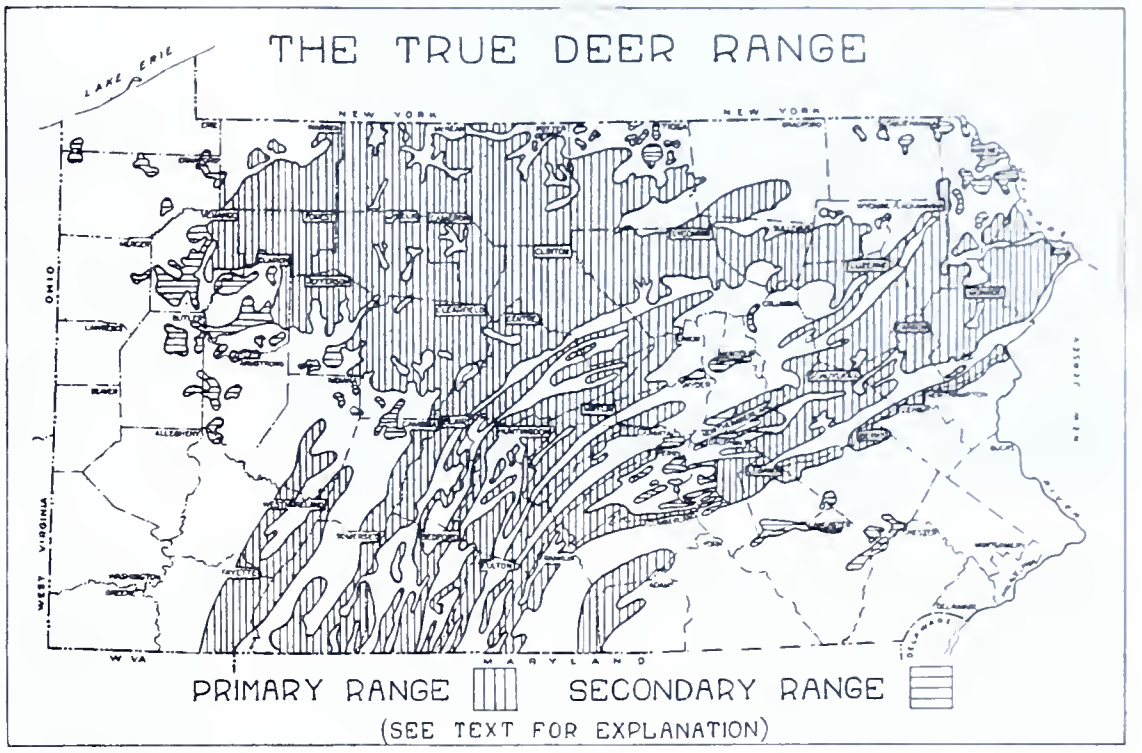


Figure 9

10% might well produce the desired results. All in all it appears as if a total reduction of something less than 25% of the entire population would largely tend to eliminate the present problem *provided sound means of regulating the extent of the kill in the different sections of the range could be provided.*

To obtain the extensive thinnings required in some sections *without suffering too heavy reductions in others* a controlled system of shooting must be employed. Though public opinion at present may be opposed to it, and though certain current clauses in the Game Code complicate its use, *the special permit system appears to be the soundest means of bringing about periodic reductions in the deer herd because it is the only known method whereby both the extent of kill and the concentration of hunters may be properly controlled.* Many persons believe that merely by closing certain districts and opening others to the killing of deer the desired end may just as easily be reached. Past experience has clearly shown, however, that such action causes a dangerous concentration of hunters and results in over-reduction in certain sections.

Because of the inexplicable opposition to the permit system, and because of the complications encountered in its operation under the present provisions of law, the Commission has adopted for 1938 the only other feasible system of

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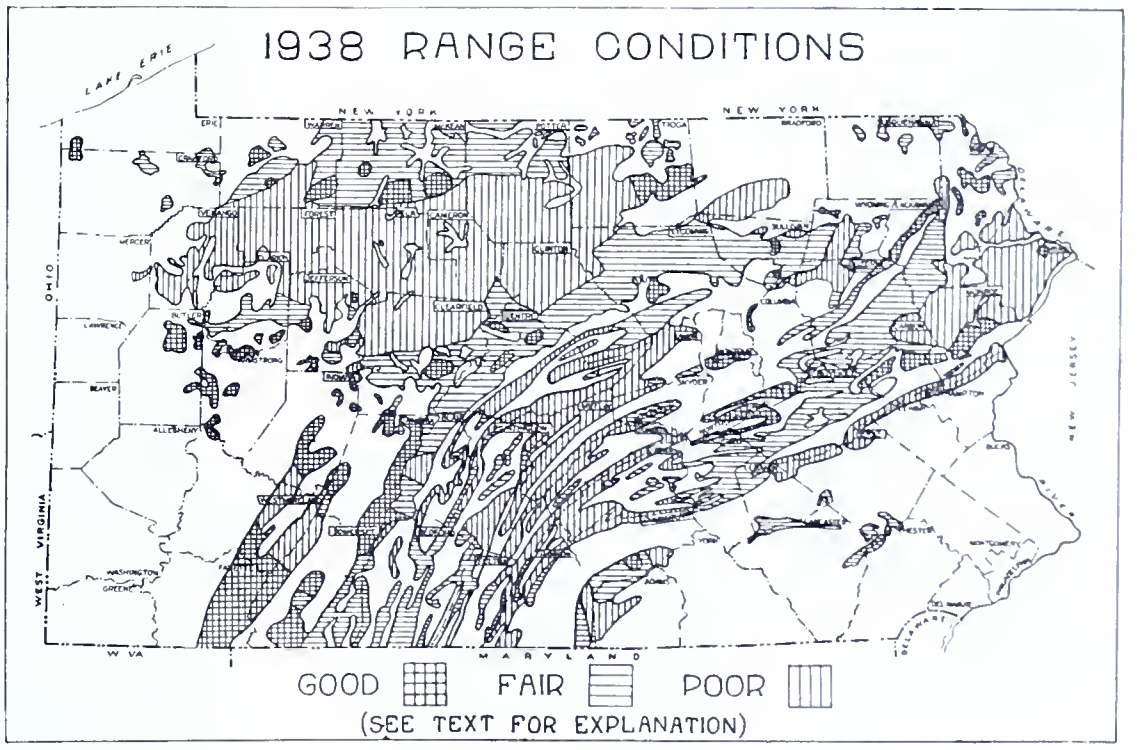


Figure 10



A. M. M. Neg. No. 63172, Dr. Edward Francis' collection. Shows enlarged glands in arm pit of Tularemia infection of hand.

TULAREMIA

By E. W. GIVEN, M.D., F.A.C.S.*

Reprinted from "American Rifleman"

EDITOR'S NOTE: *Few if any cases of tularemia have ever occurred in Pennsylvania, nevertheless hunters should use caution when handling apparently sick or diseased animals.*

THE PURPOSE of this article is not to unduly alarm or frighten, but to *caution*, to protect, to advise and counsel, and above all to EDUCATE the thousands of woodchuck hunters, varmint shooters, and rabbit gunners, so that they may not inadvertently contract Tularemia.

For many years the author has been an enthusiastic woodchuck hunter. He has traveled thousands of miles at a time, simply to hunt, study, shoot and photograph Mr. Monax. He likes rabbit, bird and squirrel hunting. He has been privileged for years to have medical supervision and care of the hundreds of contestants at the annual encampments and tournaments of the Eastern Small Bore Rifle Association.

Sportsmen and himself, therefore, have much in common. Possibly he may be privileged to discuss Tularemia therefore, both from the standpoint of the physician and of the sportsman, and be understandable to both.

Tularemia is comparatively a new disease. It afflicts small game and varmints and may be transmitted from them to hunters and others by means of living carriers such as flies, ticks and fleas. It was first definitely recognized in 1911 by Dr. McCoy. It was then prevalent among ground squirrels in Tulare County, California. Dr. Francis named it Tularemia in the same year.

Today it is common in many sections, among varmints, rodents, and other small fry of the fields, wood lots and fence corners, from whom it may readily and quickly be contracted. The disease is readily communicable and much on the increase among those who handle, dress or eat *diseased* small game. It has been reported from all states except three, Maine, Vermont and Connecticut.

It is most likely to be contracted by rabbit and varmint hunters or farmers who pick up and handle the unknowingly Tularemia-infected animals or their internal organs. Those also susceptible are handlers of fresh furs and dressers of pelts from diseased animals.

Tularemia is never epidemic *by transfer from man to man.* Every case, no matter how many develop, is an individual, personal infection from contracting: 1. The diseased animal. 2. By being bitten by an infected blood-sucking fly, tick or flea, which has fed upon or been attached to the body of an animal suffering from Tularemia. 3. By smearing or crushing the body juices of an infected fly or tick on the hunter's skin, even though the skin be unbroken. Please understand this thoroughly, Tularemia may be gotten by slapping a fly on the skin without breaking or abrading the skin.

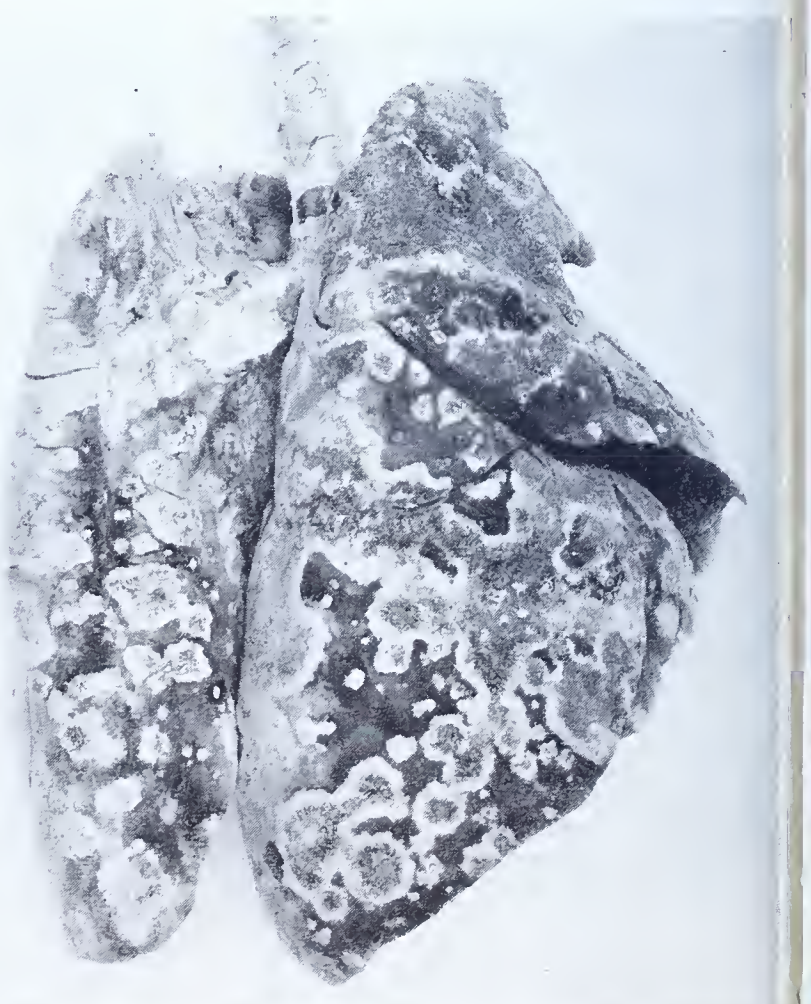
When afield, try to avoid bites from deer flies, or of fleas, ticks and other vermin which may have fed upon, or have just come off the bodies of rabbits, woodchucks, ground squirrels or other game or varmints susceptible to Tularemia.

You have all heard of house flies which travel from table to toilet, back to table, and food thereon, and therefore spread disease. In much the same manner is Tularemia spread to people from infected animal life but by different types of carriers. It is not only a matter for thought that rabbit hunters and their families may be individually infected, but any persons who may be bitten by or have squashed on their bodies deer flies or other carriers traveling from animal to man. Disease is no respecter of persons. Deer flies or ticks should therefore never be permitted to attach themselves to the back of the neck, or in the margin of the hair line, and to be thoroughly squashed thereon, when their bite or pinch becomes especially annoying. The feet and biting parts of flies and ticks which have been feeding on an animal host of Tularemia, are smeared with germs after leaving the source of infection. Their body juices, germ laden, are an active agent of infection. Hence the desirability as well as the practical necessity of CARE in keeping one's self apart from such insect life in Tularemia-infected areas becomes apparent.

On the other hand, while it is known in the medical profession that Tularemia produces a fairly high death rate, nevertheless no man

* Surgeon, Eastern Small Bore Rifle Association.

A. M. M. Neg. No. 63748, Dr. Edward Francis' collection. Lungs and windpipe taken from rabbit dead from Tularemia. The many diseased parts are well shown as separate and also blending irregularly circular spots dark in the middle with light fuzzy edges. Such lungs show entire animal is diseased and no part fit to eat. To handle with bare hands such meats would at once transmit the disease.



Neck of patient of Dr. W. M. Simpson, Dayton, Ohio. A. M. M. Neg. No. 47740. Shows small papules which develop after infection-carrying fly has been smashed on neck, or hand carrying same infection rubbed across.



AND THE SPORTSMAN

who has recovered from the disease has ever contracted it again because an attack confers fortunate immunity against subsequent infection.

Suppose one contracts Tularemia—what happens? How does it affect him? What is the proper plan of treatment?

The following is a typical history of a hunter infected from wild game and permitted to be included herewith through the courtesy of Dr. Edward Francis, of the National Institute of Health and the U. S. Public Health Service. Credit for same is extended here and under A.M.M. Neg. 63173. Dr. Francis has done a remarkable amount of earnest, intensive, original work on Tularemia and deserves the thanks of all small game and varmint hunters. Attention is seriously invited to a study of the photographs here appearing in

A. M. M. Neg. No. 63173 from Dr. Edward Francis' collection. This photograph deserves much study by small-game and rodent-vermin hunters. It shows all typical local signs which warn infected hunter to go to bed and call doctor.



the requested official form. A hunter shot a few rabbits in Montgomery County, Maryland, about November 15, which he skinned—the evening of the same day. Soreness at a point on the right index finger developed and thinking that it contained a briar he picked the place with a needle and later in the night felt the onset of the disease, November 16. Ten days later a swab from the finger ulcer which had formed was sent to Dr. Francis at the National Institute of Health who "injected two guinea pigs." Tularemia germs were recovered "from their heart blood."

The above is descriptive of all such infections, varying according to location. To describe more would take needed space. Please study the photos with this text. These views are permitted to appear from an official source for *your protection.*

In man, there are four recognized groups, each showing symptoms within about 3½ days from the handling of the infected animal, receiving a bite from a blood-sucking fly or tick or from having an insect carrying the infection squashed upon the body of the person infected.

A. The entire disease may develop in man, almost at one and the same time. E. g., the pimple within a very few hours makes its change to ulcer, high fever, rapid pulse, prostration, headache, and enlargement of the glands draining the ulcer. These may be the glands under the arm pit. Tenderness is along the path from the ulcer to the enlarged glands which are likely to very soon soften and contain pus. If the pimple at site of original infection softens and breaks down to ulcer without it having been surgically opened it is apt to have a somewhat heaped up edge and a comparatively flat pus floor. Vomiting may occur. The patient feels sick enough to be (and always should be) in bed. Doctor should be called upon first symptoms.

B. The eye may be infected direct, resulting from the germ—the name is Bacterium tularense, carried on soiled hands rubbing the inner side of the eyelids, resulting in early and rapidly developing inflamation of the lining of the inner side of the lids and the outside of the eyeball. The small pimple, if it forms, very soon develops into an ulcer and forms usually on the edge of the eyelid. This local disturbance of the eye usually is followed by enlargement of the glands taking drainage from the poisons of the eye and above mentioned body symptoms develop.

C. Without findable bite, sore, or ulcer, the hunter or farm hand or field worker suddenly becomes decidedly sick with high fever, and above-noted general symptoms. Infection of this type is usually the result of swatting a deer fly and of rubbing in the body juices, or those of a tick. It may be seen therefore, that not only rabbit hunters, but chuck hunters, berry pickers, those who gather daisies and other field or woods blooms may be almost equally exposed to infection from Tularemia, if the disease be present. None are immune from the possibility of being bitten or of becoming infected as mentioned.

Do not misunderstand! In no sense is this intended to suggest, or to leave the thought with the reader that *all* chuck shooting, rabbit hunting, flower gathering activities should be banned or shunned. Far from it! The thought which should be left is this—watch your step! Be as careful as possible! Don't think you have to spread the blood of every deer fly that bites, all over your hands or neck. It does not suggest that you should smack a tick with a blow that can be heard

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WHAT YOU CAN DO ABOUT CONSERVATION

Reprinted from "Natural History" as condensed in "The Readers Digest"

By DONALD CULROSS PEATTIE

IN A SMALL town in North Carolina, the local beauty spot was about to be sold to a sawmill. This enchanting glen, where a white sprite of a waterfall leapt into a gorge wooded with ancient beeches and hemlocks, was to be laid waste. After that, stumps and gullies, weeds and desolation.

Gone would be the trembling maidenhairs, the starry trilliums. Without the high forest canopy, azalea, dogwood, laurel and rhododendron would bloom no more. Mockingbirds and redbirds would shun the waste, never again to pour their rapture above the singing falls.

The Garden Club of Tryon, this town of only 1500 people, went into action. Money was needed—and try to borrow from a banker with a brook for your security and orchids for tangible assets! The clubwomen were not wealthy—and waiting at the entrance to the glen was the lumber company, with cash and with saws.

Four thousand miles away a naturalist, who had spent some of his happiest hours at this waterfall, heard of the impending disaster. He wrote from memory the story of every bird and tree, shrub and flower in that living green museum. The ladies took his plea, and their own, to a civic-minded local citizen, who dug into his depression-thinned pocket for the money to buy the glen. The Garden Club women are paying him off with admission receipts, by the sale of the naturalist's guidebook, and by garden shows and other entertainments.

This was conservation on a small scale. But conservation begins at home. There is something everyone can do about it. Perhaps like Tryon your town has a beauty spot endangered or neglected—a wood, an island, a lake. Is it safe for posterity, or is it liable to selfish destruction? Are they dumping junk in that ravine? Are the ferns and jack-in-the-pulpits diminishing under the greedy hands of snatchers? Recently a complacent marauder assured me that I would find no more of the stately lotus in the Calumet district of Indiana, as he himself had "cleaned out the last of them years ago"! Your river—is it still lively with game fish, or is factory waste killing every aquatic creature?

In America's national parks, Nature has been saved for the populace by Uncle Sam. Local government can supplement them with sanctuaries and playgrounds nearer home. Cook County, Illinois, which is mostly Chicago, moved in time to save its lovely woods from "development." It bought up river courses and small lakes, and linked them together in a green girdle where one can walk for hours on lovely trails without meeting anyone but squirrels.

True, Cook County is big and rich. Yet a small Indiana town bought up a pretty little lake, unsightly with junked cars and shot over by duck poachers, and made it a recreation spot for a whole community and an island of safety for waterfowl. In Virginia a county set aside a tract of woods as a wildflower preserve. Paradise Key, in Florida, was the most beautiful everglade island in the country, the outpost of some of the rarest of tropical plants. The various proposals for disposing of it included turning it into an experimental station, a cornfield, a site for a bungalow town, grounds for a palace hotel, a sportsman's club. Instead, the women's clubs of Florida bought it and presented it to the state, to be kept as God made it. There is little doubt that as the loveliest thing in Florida it has repaid the state many times in tourist traffic.

Perhaps your town has a piece of tax-delinquent woodland. Many a European community owns a town forest which, judiciously harvested, pays most of the taxes. Recently, in one of our mountain villages where handicraft toys are made, I was told that lumber costs kept the price of the toys high. Yet the local newspaper was full of notices of the sale of woodlots by the sheriff. These might yield firewood, timber for community buildings, lumber for the toy industry, and golden hours of recreation for everybody.

Conservation means conserving not only growing things, but wildlife as well. All of us, for example, can do something for the birds. It was not difficult for a certain rich man in Louisiana to make an old backwater into a sanctuary where come even the rare and stately egrets. But a poor man in Iowa simply turned an old cattle wallow into his private paradise of wings by fencing it off and scattering grain.

You may have no more than a window sill, but you can feed the birds, and help get rid of the starving, wretched stray cats who are the foremost bird killers. When you plant trees, don't plant all of one kind; monotonous forestation makes for thin avian population. Dead hollow trees should be left standing; they are nesting sites for bluebirds and woodpeckers, swallows and owls. When you take away their home, they have no choice but to leave you, and up goes the rodent and insect population.

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A MESSAGE FROM DUPLEX PEN NO. 1

By BOBWHITE *

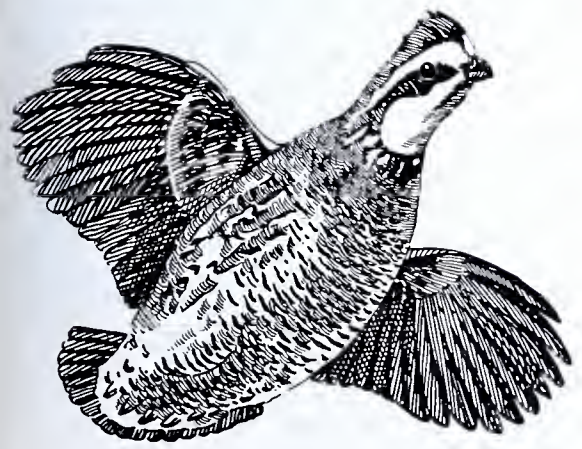
IT WAS on Monday not so long ago that something happened around our duplex pen that I would like to tell all of our visitors about. I knew it was on Monday because the eggs were collected that day, as they always are on Monday. Also it was the day after all the visitors were about, as they always come in great numbers on Sundays.

Imagine the surprise of my mate and me when on that particular Monday another bobwhite, which we recognized after a bit as being one of our sons, flew down on top of our pen. The number on his leg band was "1", the same number which we had been given just two years ago. Had it not been for that leg band number we could not have identified him, for in our organization the hatching, brooding and rearing of bobwhite quail are handled on a large scale production basis, leaving us only one job, the production of eggs that mean good, vigorous baby quail.

But to get on with the story told us by that wandering son of ours. His story, commencing with his lifting the lid from the tiny shell to emerge out into a land of white and warmth, with newcomers arriving every second, pushing, running, crying and listening for an understanding sound that would mean protection and feeding, was nothing short of wonderful.

That instinctive cry was not answered by parent quail, for as I said before, our organization eliminates this most important phase and turns it over to artificial brooders, in order to produce a large number of our kind to restock depleted uplands, so that the natural method may again produce sufficient coveys by which the sportsman, the farmer, the nature lover, the conservationist and all others will benefit.

His story continued about how they were taken from the land of "newcomers" to fresh, immaculate quarters where everything they wanted, with the exception of one thing, was given them. This fine treatment was kept up for four months, during which time this one desire grew and grew, until one day all of the group were caught and a band of metal was put on the right leg of each one. They were then placed in groups of ten, in a small box and loaded upon a covered truck. Soon they were moving along, with bumps a plenty, but the floor of the little box was covered with a material that kept them from slipping. All of this gave no discomfort, but it increased that one great desire—freedom! Soon the box was lifted, and the door of the small box slowly opened. Freedom was theirs!



This new land was exactly what they had longed for for months. At first the food and water, which on the game farm had been before them at all times, or fed at intervals, were missed. This was soon forgotten, for in their explorations a variety of seeds and many insects were found in abundance, and most of them were delicious. In fact, this new diet, in some ways tasted a great deal better than that which had been theirs before their release.

Their little covey numbered seventeen during the fall, winter and early spring. There had been twenty at the time of their release, but three had not returned to the covey one day after being scattered by a marauding housecat.

After awhile the leaves turned yellow and fell to the ground, and the insects disappeared. Then many of the favorite spots which they had frequented were too exposed for them to feel secure, but the several brush piles, and the little thickets along the fences and gullies, called "cover" and put there by the project people, were almost as good for hiding and feeding as they had been when everything was in full foliage.

Last week the group began to separate one by one, or in pairs, until our son was left alone. This morning while he was walking along the roadside he heard several bobwhite calls, which brought him to our duplex apartment. At this point of his story the clear call of a female bobwhite from over the hill was heard, and with a "So long, folks" our son flew off to answer and find that wild mate, and become head of another family in the farm areas surrounding the project on which our game farm is located.

This little story of Bobwhite has in it a few particular hints that we should well remember, and keep in mind when visiting a unit established for artificial propagation of certain wildlife species, be it a game farm or fish hatchery.

Too many people believe that a game farm is the answer to any upland game bird problem, or that a fish hatchery will solve all the reasons for empty creels.



In our North, Eastern, Western and Middle Western states we shall have need of game farms for perhaps all time. In these states they can lose practically all their upland breeding stock in a sleet storm or a blizzard, leaving only a few birds for seed stock the following spring.

In the face of these losses game management practices tend for artificial propagation of upland game birds to give way to natural propagation, for if the "stage is set" according to biological laws, natural propagation will put to shame any ten dozen quail farms.

You wouldn't expect a farmer to plant his wheat or other crops without first preparing proper seed beds, nor would it be good management to turn in cattle on a concrete landing field and expect them to find suitable forage.

The restoration of our bobwhite quail must begin and center around habitat restoration and preservation.

This means that farmers, technicians, sportsmen, and project personnel must capitalize on biological laws.

When quail are released for restocking depleted areas, they must find their particular environmental needs awaiting them.

These needs are found in what is known as "edge", and by edge is meant that gradual, indistinct, transitional borderline from one environmental type of vegetative growth to another type. It is found between the edge of a cultivated field and the woodland, on the edge of an abandoned field and the brushland. It is furnished along the edges of a plum, blackberry, or sumac thicket in the pasture; in the greenbrier and weeds along the roadside, and in many similar natural succession stages of vegetative growth.

* As interpreted by Nils N. Nilsson, Regional Wildlife Technician Land Utilization Division, Farm Security Administration, Region 8.



MANAGEMENT OF THE RED FOX IN IOWA

By PAUL L. ERRINGTON
Iowa State College

Management Should Maintain Populations In Harmony With Human Interests

EDITOR'S NOTE: *This paper represents a report of a study carried out by the Iowa Cooperative Wildlife Research Unit. Similar reports may soon be expected from the newly established Pennsylvania station.*

The Problem of Red Fox Management

THE bulk of the prey secured by foxes is represented by the slow-moving or less wary types, except when more active or alert species may be rendered vulnerable by force of circumstances. Individuals that may be crippled, starved, sick, or immature, or those that may be living in numbers beyond the capacity of their environment to accommodate are all likely subjects for attack.

Rodents and rabbits are staple foods at all seasons, but foxes may modify their routine diet at any time in response to unusual abundance or helplessness of other prey. They may, at times, live almost exclusively upon insects, including the larger beetles and various larvae. They may also do considerable scavenging.

Management of the red fox should have as its primary aim the maintenance of the species at those population levels at which it may live in the greatest harmony with human interests. This may sound like a truism, but the concept of proper balance in any population, wild or otherwise, very frequently does not receive the appreciation that its importance deserves.

The red fox hasn't the potentialities for damage to domestic animals that the coyote has; but it can do damage, nevertheless, and its astuteness and ability to look out for itself may further invite the wrath of those suffering losses.

In many cases, a reduction in numbers of foxes may be to the interests of all concerned (including the probable interests of the foxes, as well), but it should not be assumed that reduction is necessarily the sole solution of the problem, or even the best one, or even a solution at all.

If, for example, game or poultry is forced to live at a disadvantage as to shelter or food, losses may be suffered, not only from foxes but from other predators, and not only when the commonly recognized predators may be abundant but when they may be scarce or absent. The possibility should never be overlooked that, if heavy predation occurs, it may be due more to the lack of security of the species preyed upon than to anything else.

Wild creatures, whether foxes or pheasants or songbirds, are opportunists, first and last, and whether a fox eats mice or chickens, whether a pheasant eats cutworms or sprouting corn, or whether a robin eats potato beetles or cherries, or whether some other wild creature eats something that nobody cares about, the eating is done largely according to what suitable food may be procured with the most convenience. Whether a wild creature destroys something that man values or something he doesn't (or may think he doesn't), these reactions are essentially those of stimulus and response; and the more firmly this elementary fact is grasped, the more satisfactorily man should be able to safeguard his own interests.

The Farmer and the Fox

The farmer's chief losses from foxes arise through depredations upon poultry, which may be severe if the conditions are just right. The heaviest losses are suffered in mid-summer when young chickens may be running all over the premises. There may be trouble on an expensive scale if chickens take to the cornfields in large numbers after the corn has been laid by.

Much of the poultry loss charged to foxes, however, is heavier "on paper" than in actuality, especially for seasons other than summer. A considerable proportion of the poultry material found in the stomach and intestinal contents of foxes throughout the year is evidently carrion. Foxes may bite off and swallow the heads or feet of fresh or frozen carcasses they may find in fields and they may chew on some that are either quite dry, or "ripe."

Foxes will, to be sure, pick off a fowl from time to time as opportunities present themselves, but opportunities diminish as the birds become older and as the attractions of the fields are outweighed by the advantages of the farmyards during the colder months.

We haven't enough data to justify conclusions as to the seriousness of fox depredations upon lambs, but as concerns damage to young pigs we feel better informed. If a sow farrows away from the farm buildings or raises her litter under semi-wild conditions, foxes take what they are able to get until the pigs grow enough to be out of danger. On most Iowa farms, the pigs are not very accessible, and the losses are likely to be slight. A large number of the pig carcasses that appear at fox dens are plainly carrion.

The best insurance against severe fox damage on a farm seems to be a well-trained dog—which every farmer should have anyway. Suitable quarters add a great deal to the security of the flocks and may be the cheapest and most effective solution to the farmer's fox problem in the long run. Then, if the farmer succeeds in keeping his losses down by preventive measures, the sale of one or two prime pelts a season may make him feel that he is breaking even or possibly making a little on the foxes.

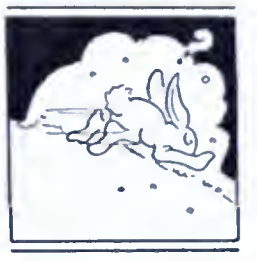
Sportsmen are traditionally divided into two camps on the subject of foxes—the bird hunters and the fox hunters. The feeling between these two factions may run somewhat high when each is convinced that the other exists at the expense of its own sport. The findings of recent research suggest that these factions really may have less cause for dissension than they may think, for it is conceivable that fox populations may be kept at levels reasonably satisfactory to both.

The bobwhite quail has recently been the subject of a vast amount of intensive research. From Wisconsin and Iowa, we have accurate data on quail populations and carrying capacities, and on the food habits of predators in the same areas. These data are frequently contemporaneous and may be correlated to advantage.

(Continued on Page 31)



SPORTSMEN'S QUERIES



By CHAS. F. STAMBAUGH

SHOTGUNS FOR ANTLERLESS DEER SHOOTING

Q. I have heard it rumored several times since the announcement of the doe season that the use of shotguns and ball shells will be unlawful. Is that correct?

I.E.A.—Phoenixville, Pa.

A. There is no truth to such rumors; the same regulations on the use of firearms for deer hunting will be in effect this year as have been during the past several years. Shotguns propelling a single expanding ball at one discharge will be legal in the coming antlerless deer season. Automatic shotguns and rifles are, of course, prohibited. However, sentiment against the use of shotguns with ball shells is growing rapidly because they are more dangerous in the woods.

* * *

BUCK DEER WITH NICKS IN EARS

Q. The deer I shot last year in Center County had both of its ears nicked. The nicks are on the under-side of the ear, about half way between the base and the top of the ear. Some maintain that this buck was stocked because of the markings. It had ten points. Can you give me any information on this deer?

S.K.—Russellton, Pa.

A. The "nicks" in the ears of the buck are not due to any marking placed there by the Commission. From numerous inquiries I have made to present and past officials of the Game Commission, I am unable to find that any deer released by the Department were marked in this manner, and doubt whether such markings were ever placed on stocked deer. Markings or nicks on the ears of bucks are no doubt caused by the vicious fighting in which these animals are in the habit of indulging, especially during the mating season. Bucks are inclined to fight for supremacy, and it is somewhat common to find bucks with the ears nicked.

* * *

TRAPPING BY BOYS UNDER 18

Q. Is a hunting license required for a boy under sixteen (16) years of age, to trap?

C.D.—Berlin, Pa.

A. No, except for raccoons. The present Game Law permits persons under the age of eighteen (18) years to trap *fur-bearing animals or predators* without securing a hunter's license. However, except on lands where no license is required it is necessary to have a hunter's license to trap raccoons in season, as these animals are classed as game.

TURKEY BUZZARDS OR VULTURES

Q. Is it unlawful to shoot a buzzard in Pennsylvania?

C.K.—Sewickley, Pa.

A. Yes, under the present law. The buzzard or turkey vulture was placed on the protected list in this State on June 3, 1937, and the penalty for killing or possessing this bird at the present time is $10.00. Turkey vultures are highly beneficial in removing carrion, and are not harmful in any way.

* * *

HUNTING SKUNKS AT NIGHT WITH DOG

Q. Is it legal to hunt skunks at night with a dog?

J.R.—Mount Joy, Pa.

A. There is nothing in the Game Law to definitely prohibit hunting skunks at night with dogs during the open skunk season, but you must not use artificial lights of any kind for such hunting. In fact, we discourage any night hunting, except for raccoons, as you might invite criticism from other hunters who quit at 5 P.M. Also, there is always the possibility of making yourself liable to a fine, should the dog follow the trail of any game except raccoons during the nighttime while you have a shotgun or rifle in possession.

* * *

USE OF .22 CAL. REVOLVER ON RABBITS

Q. Is it legal to hunt rabbits with a .22 Cal. revolver?

G.R.L.—Sharpsville, Pa.

A. Yes, there is nothing in the present Game Law to forbid it. You must not use an automatic pistol for that purpose, as all automatic firearms are unlawful for hunting wildbirds and animals in this State.

* * *

WATER SETS FOR MUSKRATS

Q. Please inform me if the law prohibiting the setting of traps within five feet of dens applies to the setting of traps in muskrat dens under water.

R.M.Jr.,—Sperrysville, Va.

A. Yes, it does. The law makes no exception in the case of water sets, and the Commission is therefore obliged to require muskrat trappers to set traps at least five feet from dens in water.

* * *

WATERFOWL STAMP FOR WOODCOCK HUNTING

Q. Is it necessary to procure a "Duck" stamp to hunt woodcock?

F.J.W.—Jermyn, Pa.

A. No, it is not. The Federal Waterfowl Stamp is required only for hunting wild ducks and wild geese, in Pennsylvania.

PUMP GUNS (REPEATING SHOTGUNS)

Q. Must I plug my pump gun to limit it to three (3) shots for rabbit hunting?

A.H.—Millvale, Pa.

A. Not necessarily. The present Game Law provides that pump shotguns may not contain more than three shells at one time in the magazine and chamber combined, when used for hunting any wild birds or animals except big game. Pump guns need not be plugged so long as the three-shell limit is observed; *but as a safety measure it would be best to plug them.* In hunting migratory game birds, such as woodcock, wild ducks, geese, etc., Federal regulations require repeating shotguns to be limited to a capacity of three shells, and guns for that purpose should, therefore, be plugged. The three-shell limit *does not apply* to deer and bear hunting.

* * *

SHOOTING RACOONS IN DAYTIME

Q. Please let me know if you are allowed to shoot racoons in the daytime during the open season?

R.R.—Homer City, Pa.

A. Yes. During the coming racoon season October 31st to December 31st, these animals may be hunted and killed during either the day or the nighttime, Sundays excepted. The old law prohibiting the shooting of raccoons during daylight hours was repealed in 1937.

* * *

FLYING SQUIRRELS

Q. Is it legal to keep as pets two live flying squirrels which my daughter can get from Texas?

C.W.S.—Nanty Glo, Pa.

A. It is. This species of squirrel is not protected in Pennsylvania, and you may retain flying squirrels without a permit of any kind. It would, however, be well to keep something in writing to show the source from which the squirrels came.

* * *

NO HUNTING LICENSE TO TRAIN DOGS

Q. Does the law require a hunting license to take a dog into the woods for training purposes?

H.T.—Coalport, Pa.

A. As we interpret the present law, it does not. A hunting license need not be in possession of a person training dogs so long as he does not attempt to take or kill wild birds or animals. The law prohibits the possession of a shotgun or rifle while training dogs.

CURRENT TOPICS

PENNSYLVANIA GAME COMMISSION OFFICIAL 1938 OPEN SEASONS AND BAG LIMITS FOR GAME AND FUR-BEARING ANIMALS

Below is a summary of the open seasons and bag limits established by resolution of the Pennsylvania Game Commission, under date of July 13, 1938, in accordance with the provisions of Sections 501 and 601 of the Act of Assembly, approved June 3, 1937, P. L. 1225. Open season includes both dates given, Sundays excepted for game. The shooting hours daily are 7 A. M. to 5 P. M. *On October 31 no hunting of any kind (including native and migratory game) before 9 A. M.,* which also is the opening hour on the first day of the seasons for trapping fur-bearing animals and racoons in open counties. Racoons may be hunted at night. The daily racoon limit covers animals taken noon to noon.

(*Small Game Possession Limit* UPLAND GAME *2 Days' Bag*)	Bag Limits Day	Season	OPEN SEASONS
Ruffed Grouse	2	6	Oct. 31-Nov. 12
Bobwhite Quail, Gambel Quail, Valley Quail, (Combined kinds)	4	12	Oct. 31-Nov. 12
Hares, (Snowshoe or varying)	2	8	Oct. 31-Nov. 12
Wild Turkey (See counties closed listed below) *	1	1	Oct. 31-Nov. 26
Ringneck Pheasants, males only	2	10	Oct. 31-Nov. 26
Blackbirds		Unlimited	Oct. 31-Nov. 26
Rabbits, Cottontail	4	20	Oct. 31-Nov. 26
Squirrels, Gray, Black and Fox, (Combined kinds)	6	20	Oct. 31-Nov. 26
Squirrels, Red		Unlimited	Oct. 31-Aug. 15, 1939
Woodchucks, (Commonly called Groundhogs)	4	Unlimited	Oct. 31-Sept. 15, 1939
Raccoons, all counties by individual or hunting party	2	10	Oct. 31-Dec. 31
Raccoons, by trapping, except in counties listed below **	..	10	Dec. 1-Jan. 31, 1939
Bear, over one year old by individual (See below) ***	1	1	Nov. 14-Nov. 19
Bear, over one year old by hunting party of five or more ***	2	2	Nov. 14-Nov. 19
Deer, Antlerless, in all counties, without special permits	1	1	Nov. 28-Dec. 3
Deer, Antlerless, by hunting party of six or more	6	6	Nov. 28-Dec. 3

No open season—Reeves Pheasants, Hungarian and Chukar Partridges, Doves, Antlered Male Deer, Elk and Cub Bears.

FUR-BEARERS (Traps not to be staked out or set before 9 A. M. the first dates)

Minks, Opossums, Skunks		Unlimited	Nov. 15-Jan. 31, 1939
Muskrats, (By trapping only)		Unlimited	Dec. 1-Jan. 31, 1939
Otters, (Traps only, in 4 counties) ****	..	3	Nov. 15-Jan 31, 1939
Beavers (Traps only, in 8 counties) *****	..	3	Feb. 15-Feb. 28, 1939

MIGRATORY GAME

Rails and Gallinules (Except Sora & Coot)	15 of combined kinds		Sept. 1-Nov. 30
Sora	15		Sept. 1-Nov. 30
Woodcock	4		Oct. 1-Oct. 31
Wild Ducks (Except Wood Ducks) †	10†		Oct. 15-Nov. 28
Wild Geese †	5 of combined kinds †		Oct. 15-Nov. 28
Snipe, Wilson's (Jacksnipe)	15		Oct. 15-Nov. 28
Coots, (Mudhens)	25		Oct. 15-Nov. 28

* No open season on Wild Turkeys during 1938 in Cameron, Clarion, Clearfield, Elk, Forest, McKean, Potter, Venango and Warren Counties.

** No Raccoon trapping in Allegheny, Armstrong, Beaver, Butler, Cambria, Fayette, Greene, Indiana, Lawrence, Mercer, Somerset, Washington and Westmoreland Counties.

*** No Bear season in Bedford and Blair Counties.

**** Otter trapping in Monroe, Pike, Susquehanna and Wayne Counties only.

***** Beaver trapping in Centre, Clearfield, Jefferson, Luzerne, Monroe, Pike, Susquehanna and Wayne Counties only.

† Possession Limits, Ducks, 10 a day, not more than 3 of which may be canvasbacks, Redheads, Duffleheads or Ruddy ducks or an aggregate of three birds of such species; and no person at any one time may possess more than 20 of all kinds, of which not more than 6 of any single species, or 6 in the aggregate, may be of the restricted species above mentioned.

Geese, 5 of combined kinds a day; and no person at any one time may possess more than 10 of combined kinds.

All other migratory game birds, possession limit one day's bag.

SHOOTING HOURS FOR MIGRATORY BIRDS:

Rails and Gallinules—7 A. M. to 5 P. M., except in tidal marsh areas 7 A. M., to sunset; Woodcock and Snipe—7 A. M. to 5 P. M.; Ducks, Geese, and Coots—7 A. M. to 4 P. M.

EXCEPTION—*No Hunting of any kind before 9 A. M. October 31st.*

JOHN M. PHILLIPS HONORED

A gathering of old friends, many of them life-long, as well as many younger friends and admirers, marked the testimonial of one of the greatest and foremost conservation leaders in America. For over a half century John M. Phillips, well known and well loved by sportsmen, Boy Scouts and nature enthusiasts the country over, struggled against almost inconceivable odds to establish a basic program of wildlife conservation in Pennsylvania. The story of the life of this great warrior is one of great adventure, of bitter struggle, of devotion to duty, of kindliness. Would that we had the space to tell it here. Failing that we can but extol in this simple though none the less sincere gesture the great work which he performed. We all owe him a debt of gratitude for preserving for posterity the wild creatures which live in such abundance within our Commonwealth. And it is up to each one of us to uphold those traditions so that all that he struggled for and all that he accomplished may not have been done in vain.

Although marked by a note of sadness the banquet in honor of Mr. Phillips held on September 10 at the Hotel Conneaut, Conneaut Park, was filled with high tribute for this pioneer wildlifer. Upwards of 200 persons, including many men of high public office and representatives of many sportsmen's associations contributed to the success of the gathering by their presence.

More than one touch of humor permeated the gathering as one speaker or another, in his reminiscing, spoke about Mr. Phillips' fight with the sportsmen, with the Legislature and even with the Governors of the Commonwealth, in his efforts to aid conservation, and how he unflinchingly came up after every drubbing, and many a one he got in the beginning, and asked for more. This "Never say die" spirit, and the determination to win for Pennsylvania sportsmen the heritage they now enjoy cost this grand old man much time, much effort, and much money. Yet he gave all of them unstintingly, yes even more generously than any one will ever know in order that that heritage might be saved. Knocked in the courts and knocked out of the courts; blasted in the halls of the Legislature and blasted out of the halls of the Legislature, and even called crazy, he took it all standing up and in the end won his cause.

Among the old timers who helped to pay tribute to Mr. Phillips were Hon. John S. Fisher, former Governor of Pennsylvania, whose stirring address touched a responsive cord in the hearts of everyone present. His commendation of the present Game Commission and the fact that it is nonpartisan and his acknowledgment of that commendation to Colonel Biddle, President of the Commission, who was also at the speaker's table, won great applause. Likewise the reiterated pledge of Colonel Biddle that the Game Commission was and would continue to remain free from politics so long as he was its head, brought forth equal applause from those present.

CURRENT TOPICS

Other speakers included E. K. Morse, of Pittsburgh, father of the resident hunters' license act; Hon. Howard Stewart, of Clearfield, former Member of the Game Commission; Hon. Charles A. French, Commissioner of Fisheries; Hon. Seth E. Gordon, Executive Director of the Pennsylvania Game Commission, and the guest of honor, Mr. Phillips.

Filled with emotion the grand old man refused to accept all the credit for himself. "I am only one who helped foster the movement to restore wildlife in Pennsylvania," he said. "There were many others." Among these he mentioned former Governors Tener and Fisher particularly, saying that had it not been for them most of his battles would have ended in defeat.

Noteworthy also is the fact that there were present to pay him tribute no less than eleven former members of the Game Commission including Wilson McGrew, of Pittsfield; Richard Reitz, of Brookville; Jared M. B. Rice, of New Castle; Howard Stewart, of Clearfield; and A. Hunter Willis, of Erie. In addition five members of the present Game Commission were on hand to honor their former member's fame; namely, Lieut. Col. Nicholas Biddle, Philadelphia; Col. A. W. Lee, Clearfield; William Fluke, Saxton; Samuel Castner, Williamsport; and Robert Lamberton, Franklin.

It is likewise interesting to note that in the 42 years since the Game Commission was established, the birthday of which is November of this year, there have been only 43 different men appointed to the Commission in that period. Only two of them ever left and came back—Messrs. John S. Speer and Ross L. Leffler. Of the 43, 11 were present at this gathering; also of the 43, 26 are living and 17 are dead. The 11 who attended the testimonial is therefore a splendid percentage of those who still live in view of the fact that come of them could not make the long trip because of poor health.

Other honored guests included Dr. A. W. Henn, Vice-President of the Izaak Walton League of Pennsylvania; James W. Stuber, Ohio Conservation Commission and Secretary of the Outdoor Writer's Association of America; Chester L. Smith, Head of the Sports Department of the Pittsburgh Press who acted as Master of Ceremonies; Charles G. Stone, former Secretary of the Pennsylvania Game Commission; Col. W. E. R. Corell, U. S. Engineer Corps; Judd C. Turner, Assistant Executive Director, Pennsylvania Game Commission; John G. Mock, well-known outdoor editor of the Pittsburgh Press and Chairman of the speaker's committee; Lawrence Malenfant, Pittsburgh Sportsmen's Luncheon Club who was also General Chairman of the testimonial.

In attendance also were high officers in most of the larger sportsmen's clubs in western Pennsylvania and their members. Quite a few sportswomen also were in attendance, an event which was commented upon very high by all speakers. It is the hope of the Committee responsible for the testimonial to make an annual celebration, and an announcement to that end was made at the culmination of the banquet.

NEW 1938 HUNTERS' LICENSES

Positive Identification Essential This Year

Due to the combined efforts of the Department of Revenue and the Game Commission, hunting licenses were made available this year earlier than for sometime. Earlier distribution was also made possible by the elimination from the licenses the Federal Regulations for taking waterfowl and other migratory game. This information, however, is being supplied in a separate summary issued with each license. Ask for your copy.

Persons applying for licenses this year must be in position to establish, to the satisfaction of the issuing agent, *positive means of identification* as to residence and citizenship. Pennsylvania voters' registration cards are suggested as one of the best identifications that could be presented. Too many non-residents and aliens obtained resident licenses last year.

This season hunters in the field must be in position to furnish positive identification, in addition to the license, in order to stop cheating. Game Protectors have been instructed to conduct an extensive checking program in order to stop this unsportsmanlike practice.

Field Officers will also positively enforce the license signing requirement, and hunters are urged to sign their license in ink immediately upon receiving same from the issuing agent in order to save themselves financial embarrassment.

A new simplified numbering system, with only one set of numbers for each license, has been adopted this year which will assure more speedy and positive identification, with sixty-six less chances for error. This will make it more difficult for unscrupulous hunters to operate.

Under the new numbering system hunters are urged to purchase their license *within their county of residence*, as low license numbers or particular county and license number groupings will no longer be available. The new numbering system also eliminates Special Issue licenses, which were previously furnished to agents after their regular allotment had been exhausted.

The 1938 licenses are required for all hunting after September 1, when the season for rails and gallinules opened. Since new licenses were available at the office of the Treasurer in every county before that date, the use of old licenses thereafter was not tolerated.

President Roosevelt has signed executive orders making bird refuges of two small islands along waterfowl flyways in the United States. They are the Fort Tyler Migratory Bird Refuge off the north shore of Long Island, New York, and the West Sister Island Migratory Bird Refuge at the western end of Lake Erie.

A bobwhite quail banded and released in Plumstead Township, Bucks County, by the Pennsylvania Game Commission on August 24, 1937, (band no. 7837), was killed in Stockton, New Jersey, on July 27, 1938, by a cat belonging to Miss Helen Kleen, of Stockton. This is just another proof that quail do drift or migrate at times, depending upon certain conditions.

Dr. George M. Sutton, former Head of the Division of Education, Pennsylvania Game Commission, now Curator of Birds at Cornell University, attended the seventh gathering of the International Committee for Bird Preservation at Rouen, France, this summer. The International Committee was organized in London in 1922 by a small group of people from France, Great Britain, Holland and the United States.

Eighteen beaver skins from South Dakota that eventually landed in Tientsin, China, cost Orvie L. Thorson of Scenic, S. D., a $200 fine and a 60 day suspended jail sentence. He recently pleaded guilty in Rapid City, S. D., to taking beaver in violation of a state law.



Preparing seed beds at the Pennsylvania Game Commission's nursery, Beavertown, Pa., preparatory to planting seeds from the many game food producing trees, shrubs and vines.







A Cafeteria

Our forests, fields and woodlands can
much game as the food supply will suppo
mind it is the duty of every sportsman,
or other wildlife enthusiast to help im
cover conditions. Top, left to right, Asiat
lock; Butternuts; Black Walnuts; Center, to
Grape and the American Hazlenut. Botto
Pignut Hickory; Chinquapin; and the She
the above furnish excellent food and co
should be planted whenever possible.









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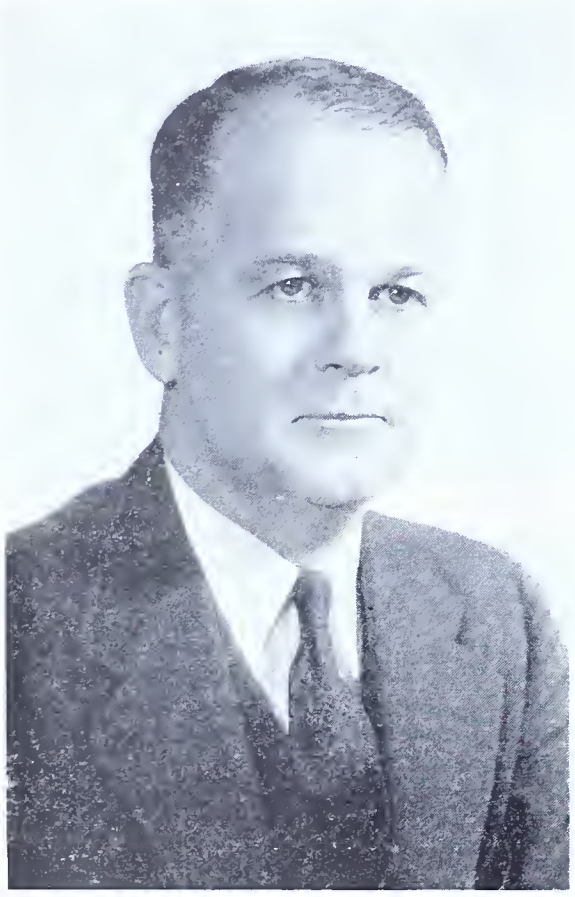






CURRENT TOPICS

ATTENDS GAME SCHOOL



Asbury Roberts

Asbury Roberts, Chief of the Bureau of Protection of the Missouri Conservation Commission, spent two weeks at the Game Commission Training School in order to study the system under which Pennsylvania improves the work of her Game Protectors.

Mr. Roberts, an Attorney-at-Law, formerly in the Land Bank of St. Louis, and a graduate of the University of Missouri, attended a two weeks "refresher" course at the Training School in the capacity of a student in order to learn the curriculum from the very beginning.

He highly commended the Commission's training program, intimating that he had picked up a great deal of useful information which will help him inaugurate a similar program in Missouri. Missouri, which recently inaugurated a nonpolitical conservation set-up similar to Pennsylvania, is making splendid progress.

One of the greatest safety campaigns in the history of the Game Commission was launched recently when field officers were instructed to line up every possible theatre in the Commonwealth in a cooperative effort to reduce hunting accidents. The Commission has had made hundreds of graphically depicted motion picture trailers in sound showing *how not to hunt*. The picture is short and full of punch, lasting only about a minute and a half. This is the first time the Commission entered the commercial motion picture field in an effort to emphasize its safety first campaign, and it is hoped that all theaters will cooperate by accepting a booking some time during the period extending from October 1 to December 1.

THOUSANDS FOR WILDLIFE STAMPS

EDITOR'S NOTE: *Due to the many requests we have received concerning the sale of wildlife stamps last year we publish the following item showing the finances of the Federation covering the fifteen months period ending June 30.*

A statement of finances, covering a fifteen-months period from April 1, 1937, to June 30, 1938, has been submitted to officers of the National Wildlife Federation by Carl D. Shoemaker, Executive Secretary. This shows total receipts of $183,855.88, which includes donations and contributions, as well as $53,000 in loans from the American Wildlife Institute. *Of this sum, $29,967.11 was derived from Wildlife Week Poster Stamp distribution through State Federations as of returns to July 5, 1938*; and $73,736.44 from single sheet distribution of poster stamps made from National Headquarters in Washington. The balance comes from skeet, trap and rifle shoots, sportsmen's shows and other activities.

Expenditures include $27,101.65 for the work of the organization, and maintenance of national headquarters in Washington and its educational projects. For the expenses of Wildlife Week, including lithographing, printing and mailing of the poster stamps, $108,931.42 was expended.

On the loans from the American Wildlife Institute, $12,000 has been paid. There is a balance on hand of $41,000, the first obligation against which is the return to the states of their proportionate share from Wildlife Week stamp distribution made directly from Washington headquarters.

NOTES FROM THE FIELD

"A species of ant about one-half inch long has moved in and now occupies approximately 10 acres of Game Lands No. 86 in Pittsfield Township. Some of the ant hills are 12 feet across and 4 and 5 feet high."—Refuge Keeper John Hopkins, Warren County.

"While working on State Game Lands No. 145 I noticed two buzzards feeding, and upon investigation found they had been eating a dead snake the skeleton of which was all that remained. Several snake eggs were scattered close by upon which two land turtles were feeding. I have often seen land turtles eating common toad stools."—Refuge Keeper Raymond Holtzapple, Lebanon County.

"On August 21, I received a call from Mrs. Moyer living at Mount Penn, a suburb of Reading, in regards to a nest of young rabbits. Upon investigation I was dumbfounded to find five young cottontails about two or three days old in a nest established in a flower box which was nailed to the side of the house."—M. J. Golden—Game Protector, Berks County.

"I observed a ringneck nest containing 6 eggs and a quail nest with 11 eggs on Project No. 10, Montgomery County."—Warren Fretz, Bucks County.

"Clarence Hoovler, of Truman, Forest County, killed a deer for damaging his garden. Upon investigation, I found the animal to be a five-point buck in the velvet, but it had been stabbed, not shot as I supposed. Mr. Hoovler told the following story, which is vouched for by the residents of the community.

"Mr. Hoovler with a flashlight and his old 45-70 rifle, accompanied by his son Arlen, about 18 years old, went to the garden to see what they could do about the deer eating all their garden truck. Arlen, the son, carried a carving knife to clean the deer in case they got one. There was a five-point buck in the garden and Mr. Hoovler blinded him with the light but was unable to shoot because his son was in the line of fire. The deer became bewildered and ran directly into the boy, who threw his arm around its neck and stabbed it behind the shoulder with the carving knife. Upon skinning the deer it was found that the knife had penetrated the heart, which was fortunate for young Arlen who is badly scarred from the horns and hoofs."—Vern A. Van Order, Traveling Protector, Forest County.

"On Saturday, July 23, Mr. Metz and I watched a turkey hen with five poults around turkey enclosure No. 3. We noticed something unusual and upon investigation we found a small skunk had somehow gotten into the enclosure and was walking along the wire in the direction of the small turkeys. They were on the outside of the wire, and when the skunk got close to the turkeys the mother turkey made a peculiar noise, and the poults, which were about the size of adult grouse, rose and flew in different directions lighting on trees high above the ground. After a short race we succeeded in killing the skunk. We thoroughly checked around the enclosure and could not find a place where the skunk might have dug under the wire. It must have climbed over the top."—Refuge Keeper Harold E. Russell, Huntingdon County.

"A large black bear walked within ten feet of Refuge Keeper Lewis H. Estep and an NYA laborer recently before he winded them. They both heaved a sigh of relief when the animal departed."

"On June 23, 1938 Forrest, Glenn and Allen Shaffer all of DuBois went hunting woodchucks. While watching for a chuck to appear they discovered a nest of weasels in a brush pile, so turned their attention to vermin hunting. Within the course of an hour the boys killed six weasels and wounded two. Two more escaped."—Frank E. Couse, Traveling Game Protector, Dubois.

"Alex Duane, a farmer of Great Bend Township, Susquehanna County, reports witnessing a battle to the death between a chipmunk and a weasel. The fight lasted several minutes and was so fast and furious it was impossible for Mr. Duane to tell one animal from the other. The weasel finally won."—Howard F. Hoffman, Game Refuge Keeper.

CURRENT TOPICS

"A few days ago my old friend Wm. Annenan, retired game protector, shot a big cat which was prowling in the woods near his camp on Lake Wallenpaupac. The animal was wearing a collar tucked into which was the enclosed note:

'Dear Friend: My name is Cookie and I come from a fine city family; but now that I have a family of two they are forced to give me up. Won't you please take me in? We are hungry. We have been brought up on Marso cat food.'

The cat was a female almost ready to litter and Bill did a good job putting it away when he did. The animal was evidently a pet, but can you imagine the callous brutality of people turning the creatures loose in the woods to prey on wildlife for its sustenance or expecting someone to care for it on the strength of the appeal in the note?"—Francis H. Coffin, former member of the Game Commission, Scranton.

DEER vs. AUTO

An 8-point buck was killed on the Lakes-to-Sea Highway near Poplar Grove by Edgar Strohm, of Lititz, R. D. 1.

Charles R. Reed, of New Kensington, killed a large doe when it jumped in front of his car.

An 8-point buck was killed by an automobile near Brickerville, Lancaster County. It weighed 160 pounds dressed and was still in the velvet.

Sometime ago an individual, whose name we prefer not to mention, was returning home when a deer jumped off a high bank into her car, a new Buick, breaking the two side doors and shattering the glass. Two or three other parties riding in the car with her were injured. Cost of repairs to the automobile amounted to $128.93.

The insurance company without any dispute paid the bodily injuries of the three parties who were riding in the car with the young lady but refused to pay the damage to the car although the policy provided property damage liability. Attorneys-at-law notified the company but they denied responsibility.

Investigation later revealed that there were no grounds for criticism of the insurance company in this case unless the young lady carried collision insurance; in other words, insurance protecting her for damage to her own car.

A car belonging to the Rev. Philip O'Donnell, of Renovo, was damaged to the extent of $139.00 when it was wrecked by a deer crashing into it on a public highway.

EDITOR'S NOTE: *Under the law there is no fund available from which owners of cars involved in such accidents can be reimbursed. It is hoped that after the 1938 deer season the citizens of this State will be able to travel about with considerable less danger of serious injury or property damage resulting from this source, especially since most of the deer should then have been removed from areas where the motorists have no reason to suspect their presence.*

"When you borrow a gun, you borrow trouble!" Such was a philosophy recently announced by Colonel Nicholas Biddle, President of the Game Commission, while discussing the department's safety first program during the coming hunting season. To the end, therefore, that the woods and fields be made safe for everybody he urges every hunter who goes afield this fall to familiarize himself with the gun he expects to use. Get the feel of it, see that its mechanism is functioning properly, and otherwise be positively sure of yourself and of the gun before you take it afield.

A CORRECTION

The author of "Questions and Answers on Archery" is Clayton B. Shenk, not Clayton R. Shank as listed in the July issue.

Game management principles were stressed in the Texas Game Wardens' short course held recently. The purpose of the course, according to officials of the Texas Game, Fish and Oyster Commission is, "to inspire each member of the field force with the full realization of his duties as a game warden, and to stimulate his interest in game management and its problems."

NEW NUMBERING SYSTEM FOR HUNTERS' LICENSES

The attention of all hunters is invited to the new license numbering system adopted for resident hunters' licenses this year. Superior by far in many ways, the new system will eliminate a lot of the difficulties heretofore experienced and at the same time save considerable money, in paper, stock, license tags, and in time and effort.

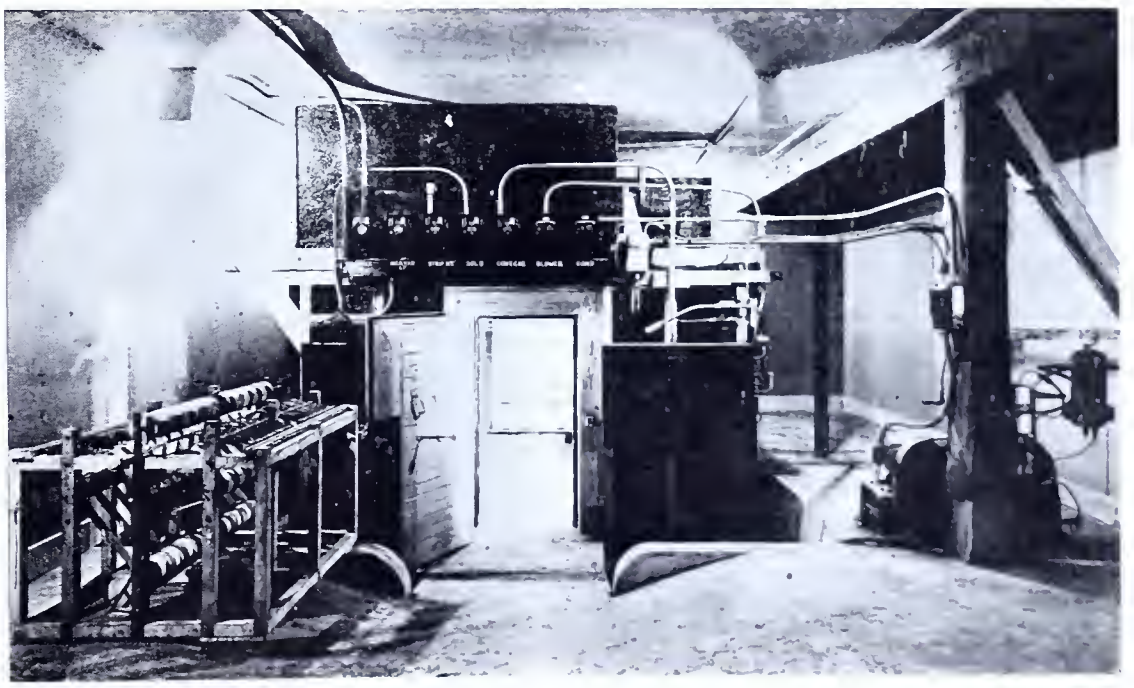
For the past 25 years the Game Commission has been using a dual numbering system on all licenses, recording both the county number and the license number on the same tag. The Commission decided that a simplified license containing only one set of numbers would accomplish the desired objectives much more effectively and economically.

It will be less difficult, for instance, for a farmer or sportsman to remember a single number on the hunting license of a violator than it would be for him to remember two sets of numbers. Past experience showed that very often due to the emergency of the situation only one number was recorded. The county number often was forgotten, thereby making it necessary for the staff of the Commission to check that number in everyone of the 67 counties in an attempt to catch the culprit. Such checking took much needless time.

Another advantage of the single license number used this year is that it will eliminate the necessity for printing any special issue licenses, the custom in the past, to take care of those counties which exhausted their supply of the regular issue. This caused much confusion in the field. Furthermore, it will eliminate the former waste from manufacturing many licenses not used.

Under the present system it will be possible to take care of the actual additional needs of all agents quickly, as the license numbers run consecutively and can readily be shipped from the reserve supply upon demand. All County Treasurers were supplied with licenses in August, and practically half of the agents have received their licenses. Within the next ten days the entire supply will have been allotted and shipped by the State Revenue Department.

An all-around training course in "recreational biology", something new in the field of education, will be offered next year at Goddard College, Plainfield, Vermont. The new course, which is designed especially for men, will introduce the students to the wildlife resourses of the state as they are used for recreational purposes. Included in the technical studies will be classification and life history of common fishes, birds and animals. Field trips will be arranged so that students may observe the workings of the Game, Fish, and Forestry Departments of the State.



The Commission's new research apparatus, located at the Loyalsock Game Farm.



Pheasant propagating project conducted by the Upper Dauphin County Fish and Game Procurement Ass'n., comprising towns of Williamstown, Wiconisco, Lykens, Loyalton, Elizabethville, and Pillow. Here under the able leadership of Jacob M. Phillips the members raised 483 pheasants out of 500 day-old chicks furnished by the Game Commission.

WITH THE CLUBS

The field trial held at Rock Point Park, Ellwood City, recently by the local Coon Hunters Association attracted some 300 sportsmen and their dogs from Ohio, New York, New Jersey, West Virginia, Maryland and Pennsylvania. Even Kansas City, Mo. was represented. Nine heats with six dogs to a heat were run. The grand final was won by "Black Red" owned by Paul Bennett, of Hudson, Ohio, who took both line and tree. The second line dog was "Red Jacket" owned by Schillinger and Wells, of Youngstown, Ohio.

The Sixth Annual Field Day and Sportsman's Picnic of the Berks County Chapter, of the Izaak Walton League will be held on the grounds of the Cedar Top Gun Club near Shillington, October 2. Events will include a running bear shoot, fly casting, blue rock shooting, and bait casting. There will also be games for women and children. Prizes will be awarded in all events.

The Lackawanna County Federation of Sportsmen's Clubs just completed a bang-up six months' period with a membership of 1050. J. L. Neiger, President of the organization, says there are still several clubs which have not reported additional members. The Federation has successfully held several major gatherings in the past few months, the proceeds from which were used to help the Sportsmen's Wildlife Association and the Six Springs Fish Hatchery Association in raising and stocking ringneck pheasants and trout. It also contributed to the fund for the late Dr. Kalbfus.

The Federation also supported efforts of the Game Commission which ultimately opened the Tobyhanna Military Reservation to public hunting, and the Tobyhanna Creek to public fishing. It also supported the Wayne County Sportsmen's Association in its endeavor to have the Game Commission acquire additional land in that county.

The Cambridge Springs Chapter of the Crawford County Sportsman's Council now has an active Junior organization for boys under 16 years of age.

REPORT ALL BANDED BIRDS

In order to find out just what becomes of the various game birds annually released, the Commission has adopted a policy of leg-banding all such game.

If the program is to succeed, all persons killing banded birds must cooperate by reporting them to the Commission's Division of Game Research and Distribution. Each report should contain the date, and the exact location where the bird was taken, including the name of the general locality and the name of the township and county in which it is situated. This will enable the Commission to determine the distance traveled by the bird and so give a full report to the hunter.

Concerning this matter, it may be said that although the Commission offers no prizes for the return of "lucky numbers" bands, some sportsmen's organizations do so and a report to the Commission will render each hunter eligible to receive a prize.

The Zimmerman Rod & Gun Club of Mohnton planted over 100 chestnut and filbert trees last fall.

Members of the Easton Fish and Game Association are now enjoying the benefits of a new clubhouse and shooting range after what seemed to be an interminable search for a location suited to their means and needs.

COON DOG FIELD TRIAL

The Trafford Sportsmen's Association held its first Coon Dog Field Trial August 21. Over 2,000 persons and forty-four dogs were registered. There was a guaranteed purse of $125.00. Results:

First Heat—Tree & Line, dog named KING COLE, owned by Scott & Lesser, Strongsville, Ohio.

Second Heat—Tree, dog named SPIDER, owned by Witten Goolsby, Akron, Ohio. Line, dog named SPOOK, owned by E. S. Paden, Holsopple, Pa.

Third Heat—Tree & Line, dog named TOMMY, owned by Whitten Goolsby, Akron, Ohio.

Fourth Heat—Tree, dog named LITTLE FRISKIE, owned by C. H. Snyder, Akron, Ohio. Line, dog named BLUE FLASH, owned by Scott & Lesser, Strongsville, Ohio.

Fifth Heat—Tree & Line, dog named SCOUT, owned by Persch & Zahniser, Sharon, Pa.

Sixth Heat—Tree, dog named JACKIE, owned by Jean Riggle, Wellsburg, W. Va. Line, dog named BILLIE, owned by Persch & Zahniser, Sharon, Pa.

Seventh Heat—Tree & Line, dog named SPEED to SPARE, owned by Scott & Lesser, Strongsville, Ohio.

Finals—Final Tree, dog named LITTLE FRISKIE, owned by C. H. Snyder, Akron, Ohio. Purse $31.00. First Line, dog named SCOUT, owned by Persch & Zahniser, Sharon, Pa. Purse $21.70. Second Line, dog named KING COLE, owned by Scott & Lesser, Strongsville, Ohio. Purse $9.30.

Pot Race won by George Bisbee, Kansas City, Mo. dog named BLACKIE.

WITH THE CLUBS

The Bridgeville District Sportsmen's Association purchased and released 89 ringneck pheasants from club funds during the past summer.

The Bakerstown Sportsmen's Club recently held a basket picnic for the farmers of their community, at which time it handed every landowner a one-year paid up membership in the organization.

A NEW BOOK

Joseph Wharton Lippencott, well known publisher and naturalist, presents his new book "ANIMAL NEIGHBORS OF THE COUNTRYSIDE," with 45 splendid illustrations by Lynn Bogue Hunt. Mr. Lippincott tells of the lives of familiar wild creatures in a manner designed to interest and profit young and old alike. His stories concern wild animals and birds, turtles, frogs and the lesser creatures which make their homes round about us and it is filled with many of the author's personal experiences while searching for and learning the habits of the creatures he so graphically characterizes. This valuable book can be secured from the J. B. Lippencott Company, Philadelphia, at a cost of only $2.50.

NEW CLUBS

Crucible Sportsmen's Association, Crucible. Secretary, Jesse C. Smillie.

The Stony Point Rod and Gun Club, Blain, Pa. Donald W. Hench, Secretary.



The Shenandoah Sportsmen's Ass'n. raised 248 Pheasants from 270 day-old chicks furnished by the Game Commission. A weasel caused the biggest loss, killing 20 chicks.

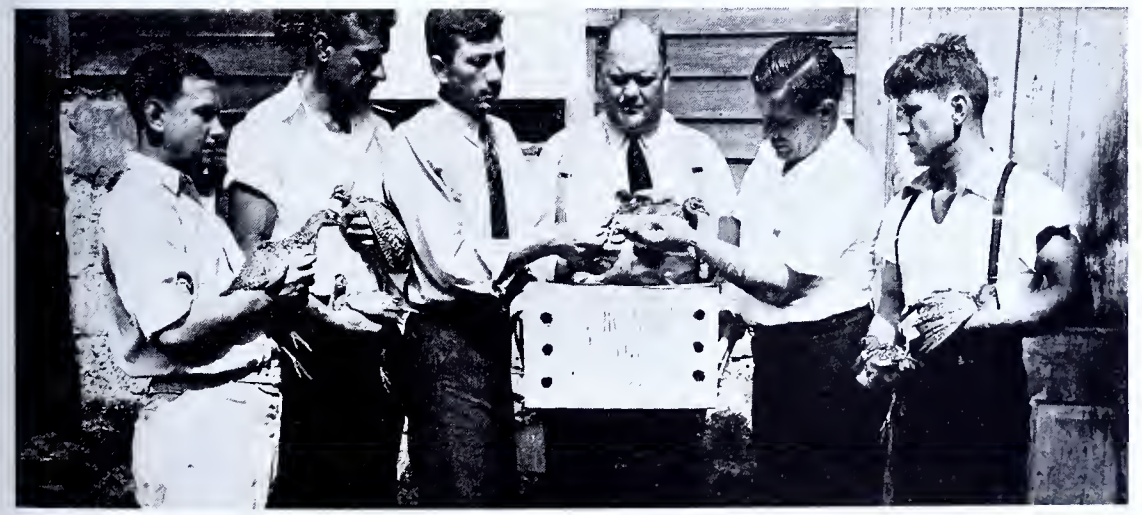
ATTENTION

Hunters who fail to carry positive identification as to their residence, in addition to their hunting license, may be subject to considerable difficulty in the field this Fall. Every attempt will be made during the coming hunting season to catch and punish those individuals who have for years secured their hunting licenses under false pretense.

Every officer in the field has been instructed to ask for positive identity, failing which steps will be taken to prohibit hunting until proper identity is established. This action has become necessary to protect honest sportsmen and eliminate cheaters, and unless hunters heed the warning they will have to suffer the consequences.

The members of the Aughwick Valley Game, Fish and Forestry Association of Mt. Union, have devised a unique method to meet their game feeding problem, according to Dr. R. R. Stake, a member of that organization. They have secured from the U. S. Geological Survey at Washington topographic maps showing the entire country surrounding their clubhouse. This was laid off in approximately forty squares. Two men were assigned to each square. By utilizing old roads the two members assigned to each square can drive in a car to where they wish to begin to feed. One man takes the feed and the other man drives the car around the square and meets the feeder at the other end. This method not only simplified their feeding program but provided a more or less accurate check on the amount of game in each section thereby showing those which needed restocking and those which were more favorable for game breeding purposes.

Every club should adopt a similar plan. It assures efficient winter feeding, no wasted efforts, and no game area unfed.



Pictured above are live-wire members of the Sportsmen's Wildlife Association "banding" ringneck pheasant chicks for distribution on public hunting lands in their section. The picture was snapped by "The Times" photographer at headquarters in North Scranton on Sunday when the first group of the birds were banded previous to their being released. Left to right, the men are: Alderman Edward Bellen, president; Peter Laytos, an organization director; Charles Costa, recording secretary; Kenneth Whitman, second vice president; Frank Galonis, first vice president, and Edward Galonis, a member of the club.

S. H. Cope, veteran Norristown sportsman, claims that his dog will gather eggs without cracking them, retrieve live pickeral from the water without scaling them, and that once he retrieved a gray fox. He has moving pictures to prove each of the episodes.

WITH THE CLUBS

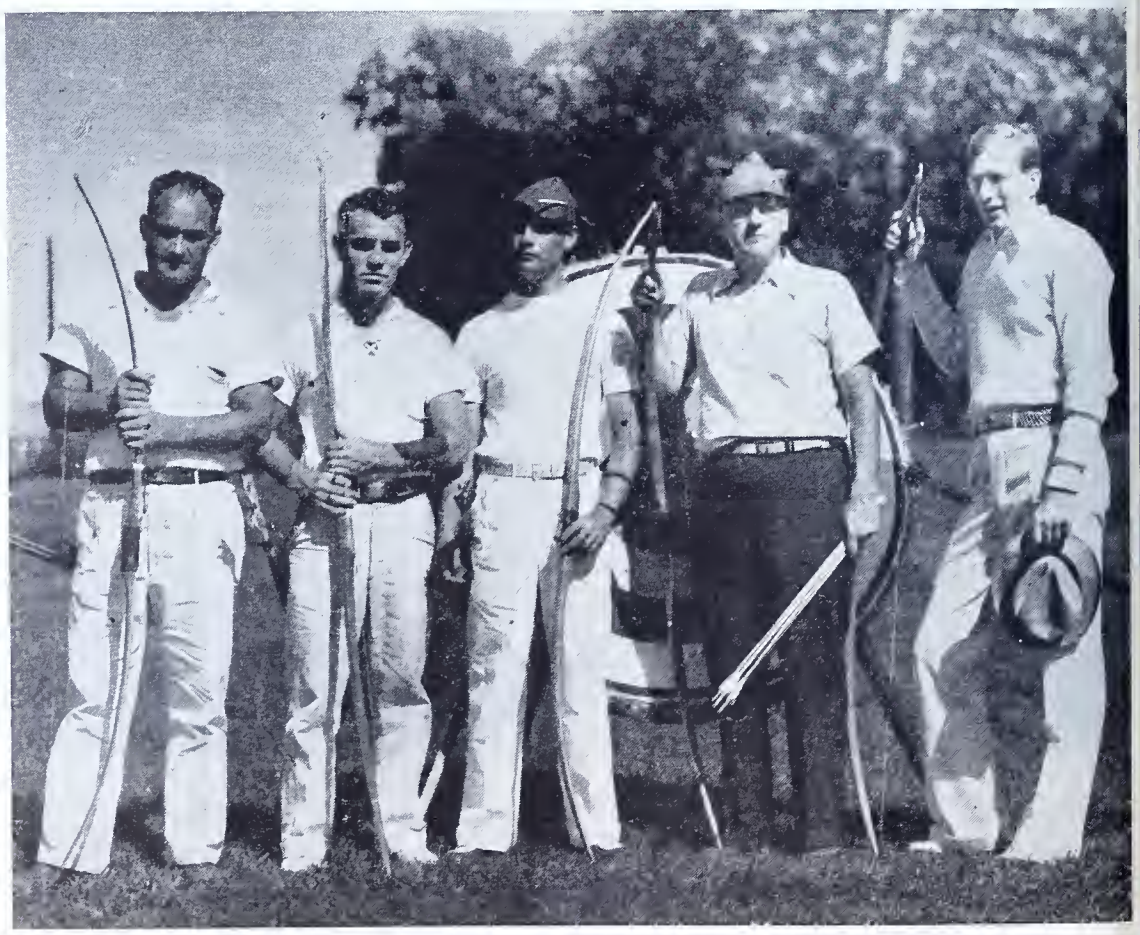


The Pennsylvania State Archery Tournament

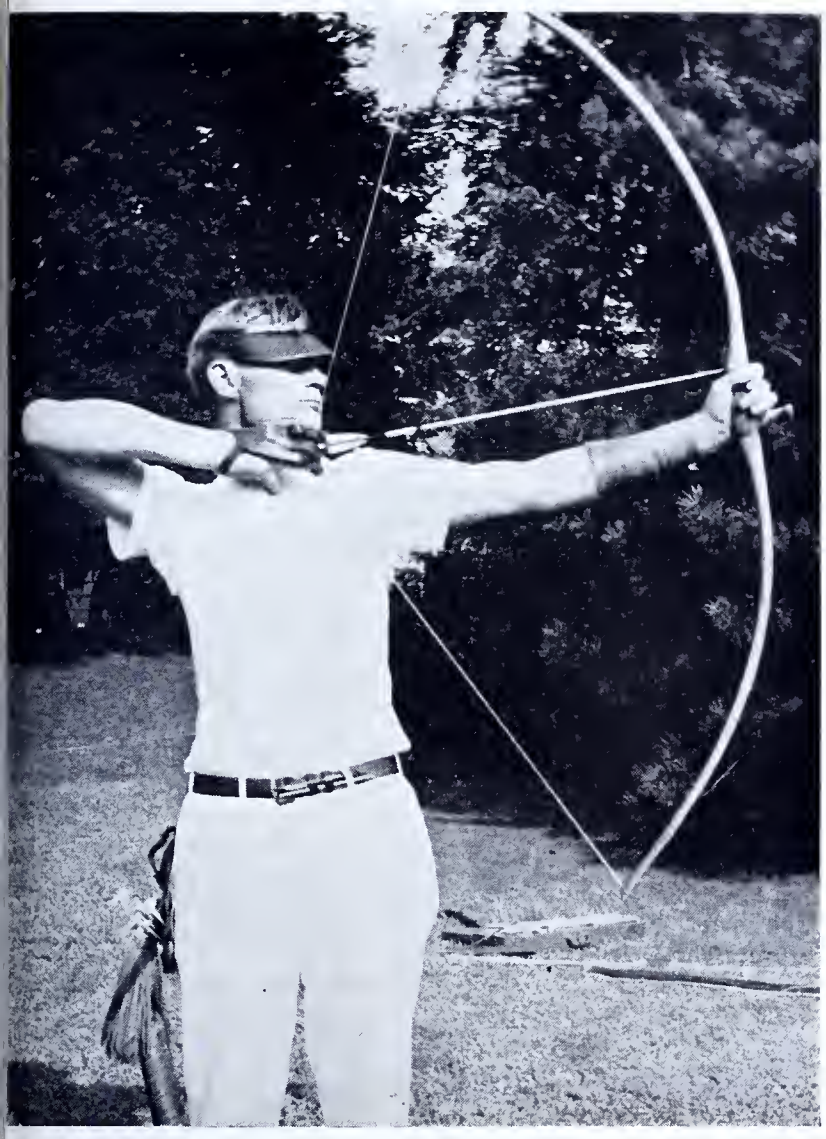
SOME of the Nation's finest bowmen participated in the Pennsylvania State Archery Tournament in the Rose Garden, Allentown, on September 3, 4 and 5. Top, left, Dr. Robert R. Elmer of Philadelphia, eight times National champion though twice sharing the honors in joint American and York rounds. Dr. Elmer is considered the authority on archery in the United States. Author of the book, "Archery," he wrote an article on the sport for Encyclopedia Brittannica, and defined all terms of the sport for Webster's International Dictionary. Center, top, is C. Hill Turnock of Pittsburgh, winner of this year's event when he established new records in the York (688), American (662) and total (1949). He was State titlist in 1935 and 1936 and runner-up in 1937. Top, right, is Mrs. Stanford Baer of Johnstown, one of the leading women archers in the meet. Bottom, left, is Carl "Dutch" Weese of Newark, N. J., highest individual scorer of the meets, though not winner because he is not a Pennsylvanian. Present Eastern U. S. sling champion, he was five times winner of the New Jersey State title. Bottom, center, is Frank Horack of North Towanda, N. Y., who scored six bulls-eyes, a perfect end, twice on the same day to establish a new record for Pennsylvania. A part Eastern U. S. champion, he was four times New York State champion and four times titlist of the Lower Lakes Archery Federation, one of the most noted in the country.

Bottom. Left to right: B. D. Banghart, Erie; Harold Hill, Red Bank, N. J.; Winfield S. Squirer, Arlington, N. J.; C. H. Turnock, Pittsburgh, State Champion; B. J. Weese, Newark, N. J., Out-of-State Champion.

Photos courtesy Allentown Morning Call



WITH THE CLUBS







Top Left: Russ Hoogerhyde, five times national champion, gave a public demonstration, along with some of the other champions on the gridiron of Muhlenberg College on Labor Day afternoon.

Right: Clayton B. Shenk, the genial Master of Ceremonies from Lancaster, Pa.

Bottom left: Mary Ellen Trimble, of Pittsburgh and Mrs. Jule Marshall, Larchmont, N. Y.

Bottom right: Another view of Hoogerhyde in action.



SCATTER LOADS



Doe with antlers killed in Pike County last year by George E. Willard of Reading.

ROAD TAR TRAPS PHEASANTS

Seven pheasant chicks wandered onto a freshly tarred road near Emaus which glued them fast until Herman Nicholas, of Allentown, came along. He released the chicks, washed their feet in gasoline and turned them over to the local game protector.

WILD TURKEYS HALT TRAFFIC ON HIGHWAY

Traffic on the Menoher Highway, eight miles northeast of Ligonier, was halted while a mother wild turkey and her seven chicks crossed the road. Motorists along the highway delayed their journey until the procession was over to avoid hitting the birds. The mother bird crossed first and then waited on the other side until her chicks crossed.

ANCIENT AUTHORITY

One of the oldest and most important books in English on Hunting is "The Master of Game"—written between the years of 1406 and 1413 by Edward III's grandson, Edward, second Duke of York—who was Shakespeare's Richard II.—*American Wildlife Institute.*

DOE GOES ON A BINGE

This is the story of a young doe that went on a tear, and to use a figure of speech, got "well oiled".

Crossing a highway in Reading near the fair grounds, the doe, large for its age, entered a gas station. Timidly and cautiously, it entered the lubricating room of the establishment. There, curiosity over the contents of a large can overcame it. It investigated.

Came the resounding crash of a can. Dark oil, drained from the crankcases of many cars, splattered and spread over the floor and the deer. "Oiled to the ears", the frightened animal chose the nearest exit—an unopen window. When last seen it was headed in the direction of Laureldale.

FIRST WILDLIFE LEGISLATION

What might be termed the first wildlife legislation in this country took effect just 209 years ago. In 1629 the West India Company granted hunting privileges to persons planting colonies in the New Netherlands.—*American Wildlife Institute.*

BURMA EXPEDITION SEEKS RARE BLACK BARKING DEER

The Black Barking Deer, an animal so rare that it has been seen only once by roving explorers, will be sought by the Vernay-Cutting Expedition to North Burma. If the American Museum of Natural History, sponsor of the expedition, acquires one of these deer, it will have the only skin or skeleton of the kind in any world museum.

The Burmese Government has granted permission, through the State Department at Washington, for the expedition to proceed with its plans. The objective is to collect mammals, birds, fish, and plants in a region of northeast Burma never entered by a scientific expedition. The explorers will start on their journey in the autumn.—*Science News Letter.*

To be really effective, mosquito dope must have staying power. A concoction used by timber cruisers and others spending a great deal of time in the forests is made by mixing equal parts of oil, tar, vaseline, olive oil, bacon grease, and 3-in-1 gun oil. It does not sound attractive and isn't—to mosquitoes. — *The Minnesota Conservationist.*

Charles E. Robbins of Sharpsville tells of a 3-legged doe. He first observed her in 1935, the year in which her one leg was shot off. He saw her this spring at which time she had two fawns with her. Mr. Robbins would like to hear of anyone killing a 3-legged doe as he would like to examine the healing of the leg bone.

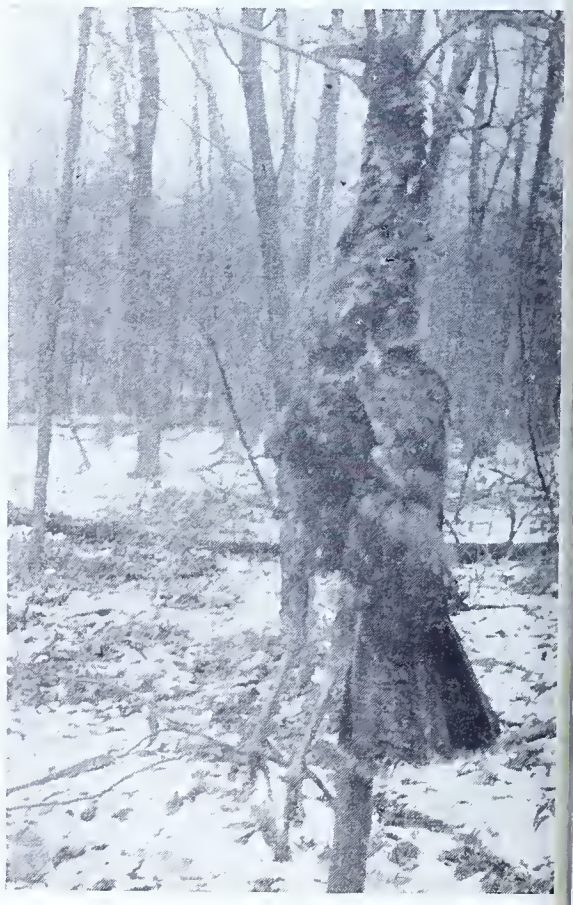
GROUNDHOG STOWAWAY

C. H. Westbrook, Editor of the Pennsylvania Manual took a day off to go fishing and although he did not report catching any fish he did send in the following unusual story.

"I was fishing up Lyman Run, near Galeton, Potter County, and left my car standing on the dirt road adjacent to the stream. In the late afternoon I drove to the home of my son (45 miles) and stopped at a gas station in the town to have the attendant look at my gas and oil. When he lifted the hood he discovered a full grown groundhog in possession.

The animal must have crawled in over the drip pan while my car stood in the woods. It evidently tried to get out but got into the wrong opening and could not make it. Its head was thrust into the opening and its body laid against the hot motor, but it was breathing. It must have ridden with me the whole 45 miles. A hard pull on the tail of the animal dislodged him and I dropped it out in the road in the center of town. It was covered with grease and doubtless pretty hot under the collar but it ambled off. You never can tell what you will find under the hood of a car nowadays."

Dr. Chas. Buckingham of Marion reported seeing 18 rabbits and 9 cats during a three-mile drive. He proposes a small license fee for cats as an effective method of control despite the difficulty in enforcing such a law.



Strangled wild turkey found last March by WPA workers on Game Lands No. 99, Huntingdon County. The bird's head was caught in the crotch of a tree.

SCATTER LOADS

DEER TRAPS DEAR!

North Carolina deer trappers operating for the U. S. Forest Service, caught some queer specimens in their traps, according to their monthly publication, "Wildlife Conservation". The reports of John Eller, game warden in charge showed that trap No. 7 caught two young ladies from a nearby town. Trap No. 4 caught a ladies' handbag, while trap No. 19 caught a deer hunter.

A system of producing television images in natural colors has been patented by Robert Harding, Jr., of White Plains, N. Y.

A record of 68 years was broken recently when Old Faithful, the famous geyser in Yellowstone National Park, failed to spout on schedule. Normally the flow of water occurs every 65 minutes, but this time it waited a full 115 minutes before performing. The previous record delay was only 93 minutes, made back in 1924.

J. G. Scott, of Sand Patch, had several No. 0 traps set in his barn for rats. One evening a small rabbit got in one of the traps. A black-snake swallowed the rabbit and was swallowing the trap. Mr. Scott came along—finis the snake.

Mrs. Edward Henderson, of Chambersburg, observed a mother sparrow feeding a baby cardinal on her lawn.

F. H. Uthoff, Director of the Philadelphia Automobile Club, is a great admirer of the brown thrasher. He observed that in addition to being a great devourer of pestiferous insects, the brown thrasher is a very belligerent bird when it comes to attacking the natural enemies of bird-life. On numerous occasions he has seen a pair of brown thrashers attacking and chasing away a family of cats from their nest of young.

Henry Faggot of Spokane, Washington, invented a skunk gun. But what's the use? The cure is worse than the disease. The gun shoots a ball of fire. When the ball hits the ground it emits a smell that drives the skunk out of the country. Some invention that can compel a skunk to flee from a smell.—*Current Ideas.*

The New Jersey game laws provide that any persons holding a valid hunting or fishing license may destroy any cat found hunting or killing birds or animals protected by law, or with a dead bird or animal in its possession, and no action for damages shall be taken against such hunter or fisherman.

Cottontail rabbits are born without hair and with their eyes closed; while the young of the hare has hair and its eyes open at birth.

Beaver played an important part in the exploration and development of the Blue Ridge and Allegheny Mountains. Their pelts were in great demand for the manufacture of the once indispensable beaver hat, and the resulting high value of the hides was the lure that led trappers and traders into the wilderness of the New World.

Four new types of game were thrown at the mercy of Oregon nimrods this year, after a stormy session of the Oregon State Game Commission.

Hunters now may blaze away at band-tailed pigeons, antelope, fawn deer and their mothers. All of them previously were protected for many years.

In an attempt to increase its deer herd, the State of Maine recently released three bucks, seven does and a fawn in one of their refuges where they could be carefully watched and protected the year round. It is hoped the animals will stray into the surrounding forest, breed and multiply. This is the first time deer propagation has been tried in Maine and officials believe it will be a great boost to their state's hunting if it works.

A DANGEROUS MULE

Every seat in front of the general store was occupied. The talk shifted from the gold standard to cotton, then to war debts, and finally to fishing.

"I know a man," said Silas Brown, "who is so expert with rod and reel that at fifty feet he can cast a lure on the same spot four out of five times."

"I'll bet," remarked John Thomas, "that's the same fellow who used to come out to my place with a pocket full of rocks and kill quail on the wing."

As the laughter subsided, a backwoods boy come riding by on a very poor mule.

"Good Lord!" Brown exclaimed. "What a bag of bones!"

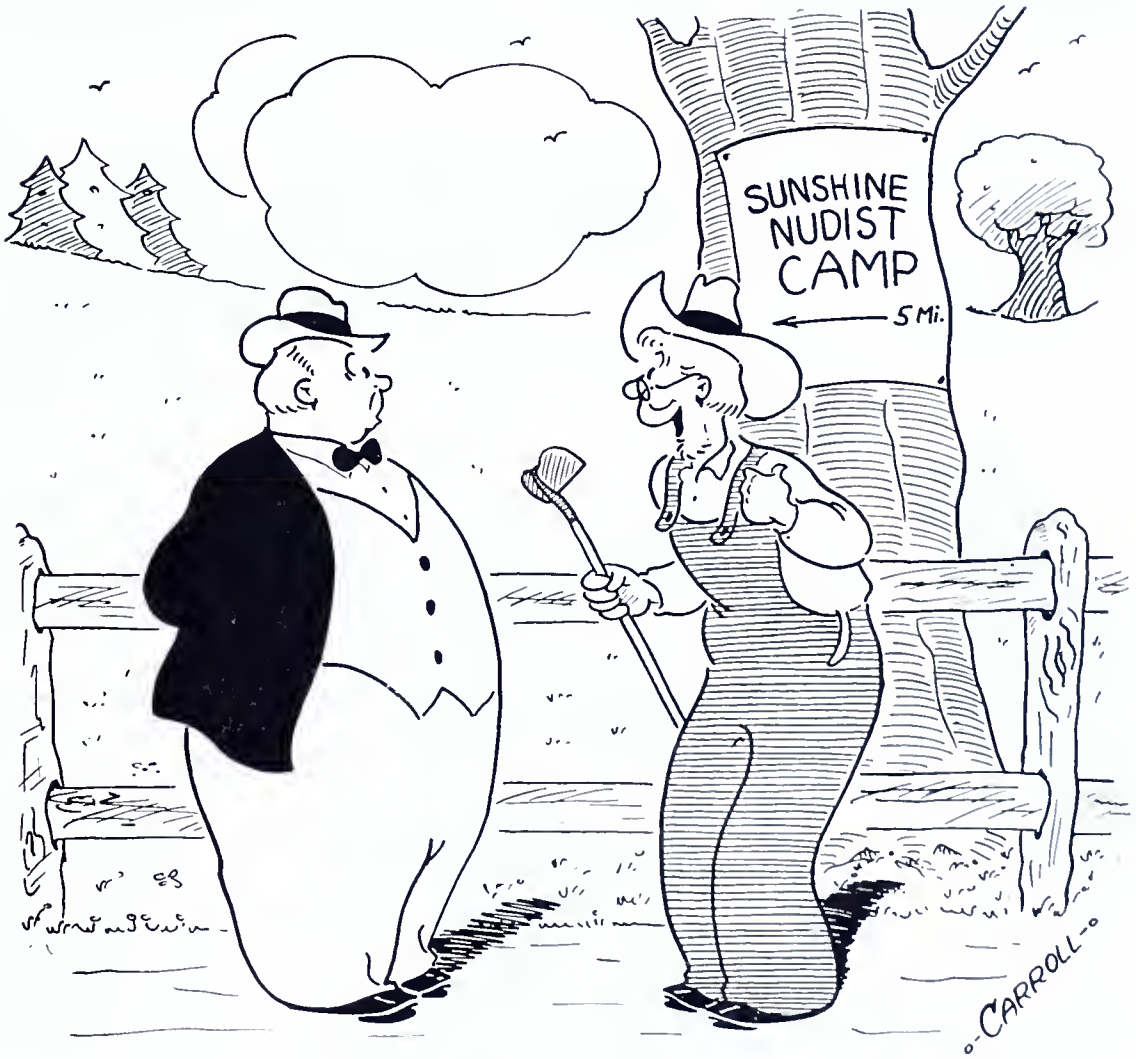
John Thomas, well pleased with himself, stepped to the curb and, with a commanding gesture, yelled: "Hey, boy!"

"Whoa!"

"Say, boy, how long has that jackass been dead?"

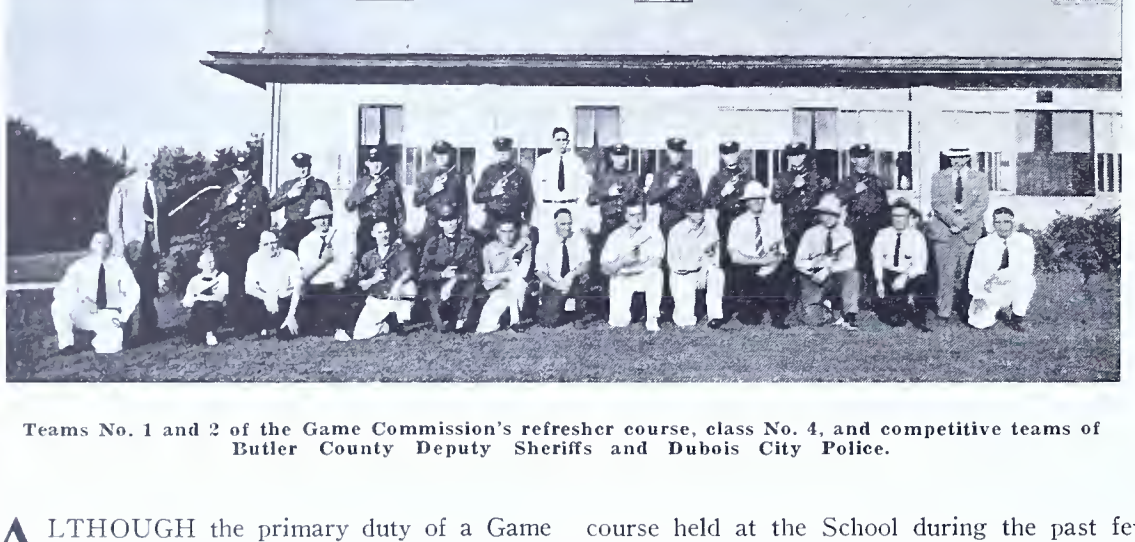
"Mister, Ah doan know jes' how long ol' mule is ben daid, but yo' is de fust buzzard what's done notice hit . . . Wham! . . . Giddap!"

—Clayton Lassiter, *The Southern Sportsman.*



"It keeps them off my land better than any 'NO HUNTING' sign I ever had!"

SELF PROTECTION vs GAME PROTECTION



Teams No. 1 and 2 of the Game Commission's refresher course, class No. 4, and competitive teams of Butler County Deputy Sheriffs and Dubois City Police.

ALTHOUGH the primary duty of a Game Protector is to manage and protect wildlife he must also know how to manage and protect his own life. While it is true that the occasions upon which a Game Protector might be called upon to defend himself are relatively few in comparison with officers who enforce criminal laws, and while the law enforcement activities of a Game Protector do not comprise the many dangers to which the criminal officer is subjected, the Game Commission nevertheless has felt for many years that self-protection of its field organization should constitute an important part of its regular training. To that end regular practice with the pistol has been encouraged both at the Commission's Training School and in the field. Interest in this field was particularly aroused during the "refresher" course held at the School during the past few months, when part of the regular training period was set aside each week for competitive revolver matches with other police and civilian teams throughout the state.

Needless to say these competitions did a lot more than simply make a man handy with a gun. Tremendous good will was fostered through them and the cause of wildlife gained many allies in the members of the visiting teams. For those interested there is included below the results of the matches held during the "refresher" courses this summer.

The match for the First Refresher Class was held on June 10th—the Game Commission School team won first place with a team score of 1631 out of 2000, the DuBois Police Team was second with a score of 1378, while the B. & O. Railroad Police Team from DuBois was third with a score of 1306.

The match for the second Refresher Class was held on July 15th—the Game Commission Training School team won first place with a team score of 1631 out of 2000, the William Penn Club of Greensburg was second with a score of 1591, the Butler County Deputy Sheriff's Team was third with a score of 1544, the B. & O. Railroad Police team was fourth with a score of 1357, while the DuBois Police team was fifth with a score of 1200.

The match for the third Refresher Class was held on August 5th—the Butler County Deputy Sheriff's team won first place with a score of 1580 out of 2000, the Game Commission Training School team was second with a score of 1463, the DuBois Police team was third with a score of 1389, while the B. & O. Railroad Police team from DuBois was fourth with a score of 1306.

The match for the fourth Refresher Class was held on August 19th—the Butler County Deputy Sheriff's Team was first with a score of 1656 out of 2000, the Game Commission Training School first team was second with a score of 1572, the DuBois Police team was third with a score of 1540, while the Training School second team was fourth with a score of 1352.

As pointed out before, guardians of the law, no matter what phase it might be, should be just as well qualified to protect their own interests as the interests of the cause they represent. The purpose in training men to handle firearms is not to create an offensive organization, but a defensive one.

THE FLYCATCHER OF HIS TRIBE—THE-RED-HEADED WOODPECKER

By DR. GEORGE MIKSCH SUTTON



HAVE you ever seen the Red-head catch a flying beetle? It is a colorful sight. The gay tricolor launches forth from the dead stub where he has been perching in the sunlight, and with his wide wings flashing their big white patches, swoops after his prey, nimbly, almost but not quite, as a Kingbird. When he has the beetle or Mayfly or other insect secure in his chisel-bill he flaps back to the dead stub in a leisurely fashion, where he pecks at his prey and swallows it deliberately.

The Red-head is a beauty. All his head is almost velvety red, and the shade is unique in the bird world. In the sunlight the color is unusually rich, and sometimes as it gleams from the wayside fence post, it seems the brightest thing in all outdoors.

Red-head's back is glossy blue-black, and his black wings have big white patches which show very plainly as he flies. His underparts are dull white. His feet are muscular and equipped with curved claws which are so strong that when the bird sleeps his feet hold him to the bark without any muscular effort. His tail is a stiff prop which helps him, of course, as he chisels out the dead wood in search of grubs and borers.

Red-head returns from the south during early May as a rule; but sometimes he remains in Pennsylvania throughout the winter. The nest cavity is dug in the toughest of telephone poles, or dead oaken stubs, and in the sawdust lined cavity four to six glossy white eggs are laid. The young birds have gray heads in their first plumage and the white patches in the wings are marked with black bars. Young Red-heads are interesting looking creatures when their plumage is changing to that of the adult. Tiny flecks of glossy red appear among the gray of the head, and rich blue-black patches come into the dull colored black. Red-head and his mate are exactly alike in color.

In some sections of America Red-Heads have done a great deal of damage by drilling holes in the telephone poles. But we should not be too hasty in condemning them for this, for the Red-heads are consumers of enemies of the forests, and are very beautiful birds.

Occasionally the Red-head develops cannibalistic habits. It has been known to eat the eggs and young of other birds. If the Red-heads of your neighborhood do not behave properly try to remember that bird habits are often individualistic, as habits sometimes are among human beings.

The Past and Future of the Roadside Menagerie

By C. EMERSON BROWN

THE DAY of the bear chained to a stake and standing in the scorching sun while well-meaning visitors proceed to pour soda water and beer down its throat, is fast disappearing. Modern methods of exhibiting wild creatures include comfort and good food for the animals and safety for the visitors.

A Pennsylvania law, passed three years ago, requiring anyone keeping wild animals in captivity for exhibition purposes to obtain a license from the Game Commission, is the reason for this improvement over the less humane, often heartless and even unsafe exhibition practices of yesteryear.

My personal opinion is that wild animals held in captivity, either in the larger zoos or in the small roadside menageries, are not unhappy or abused. They have been provided with room enough to exercise and sheltered from the sun and storm and are well fed on a proper diet.

Cages or enclosures must be large enough for the animals to get away from visitors if they so desire, and strong enough to hold them under the most trying conditions. Cages must be clean and sanitary at all times. Protecting fences are required around all enclosures containing animals of any kind. These fences must be far enough away so that visitors may not reach the cages.

When the legal setting for these regulations first became effective a few individuals considered it a hardship. Some of them even closed up shop and disposed of their stock. However, in most of these cases the owners had used their animals solely as a money making proposition and were not the proper persons to be allowed to keep any animals, wild or domesticated, in captivity. Thus the undesirables were easily weeded out.

On my first tour of inspection I found many owners, due to the fact that they had not carefully read and comprehended the meaning and importance of the act, or through neglect, had not conformed to the rules. Some, also, were not entirely in sympathy with it. Advice was freely given in every case, rules were fully explained, lay-outs and plans were gone over, and the matter of proper feeding was considered and put on a sound basis.



The day of the chained bear in Pennsylvania is at an end.

On the second inspection this season I found an entirely different feeling existing among the owners. Changes as suggested by the Commission had been made, their animals were healthier, there is no more worry about children being injured, and the cages are strong enough to hold under any emergency. As one man put it, "I can sleep now that this worry is off my mind."

To offset the owners that closed when this law was passed, many new menageries are being started by men who are really interested in animals and willing properly to care for them. I recall one in particular who has recently secured a permit. He has but few animals, but the rules and regulations are being faithfully carried out, and many visitors stop to see and comment favorably on the way the creatures are treated.

There are at this time many fine roadside menageries in our State. One of the best and largest collections is that of lobo wolves at Kane. The best collection of wild animals of different kinds and the best cared for is that of the so-called "Jungle Farm", owned and operated by George J. Keller at Bloomsburg on highway route No. 11. Many large amusement parks have acquired fine collections: Dorney Park at Allentown has a collection of more than one-hundred and twenty-five specimens besides a newly erected reptile house which contains a wide variety of snakes, lizards, alligators, etc. If one cares to see the finest housing of bears in the State they should visit Idlewild Park at Ligonier. There the new cages are attractive, strongly built and ideal models for anyone considering keeping large or small bears.

I have mentioned but few of the over fifty well kept roadside menageries which are successfully operating at this time under the supervision of the Game Commission, and I do not know of a single accident involving visitors since the menagerie law became effective. To be sure, in some cases there is still room for improvement, but on the whole I believe Pennsylvania has the best menageries in the country and the future for them is assured under the present regime.

A WOODLAND DRAMA

By R. C. ANDERSON

YEP, WE FOLK of the woods have our enemies, but we also have our little trail tricks as well. The other day three of us—a nice big brown mink, a cottontail rabbit, and myself, were up in the upper Birch Run area on a general scouting expedition. There our paths led to a focal point. I was just completing a six-mile walk in the afternoon of a hot day and had sat down on a stump to cool off and rest a spell. I was sitting some fifteen yards from the west side of a stream. Between me and the stream was an old woods road now used as a deer trail.

I had not been sitting long when I heard a thump, thump, thump, up stream, the sound coming closer all the time. Then came a rabbit hotfooting it for all that was in him. He passed me and hopped to the bank of the stream. There he turned and started back full tilt. He had not passed more than twenty feet from me on the return trip when he took a sidewise jump and landed about thirty inches from the path. Then I heard only a few faint thumps and all was quiet. I had not moved and knew the rabbit had not noticed me. Why was he behaving in such an unusual way?

I remained silent waiting for the next scene in the little drama. It was not long coming in the form of a mink, trailing the rabbit just the same as a dog would have trailed it. Down the path to the water's edge it went. Under my breath I said, score one against you, you overran the trail eight feet. Soon it was back on the trail, coming back up the path just as the rabbit had done, but it did not make the sidewise jump where the rabbit did. It proceeded up the path out of sight. I did not feel the episode was over, so I waited in silence. Soon it returned, slower and more careful. This time it did not over-run the track but on the return trip failed to make the sidewise jump and went on not to return. A happy ending.

TOBYHANNA MILITARY RESERVATION NOW USED FOR GAME MANAGEMENT

By W. GARD. CONKLIN

AFTER several years of effort on the part of the Pennsylvania Game Commission and the Third Corps Area of the U. S. Army, Baltimore, the War Department at Washington has granted a license to the Commission to exercise game management measures on the Tobyhanna Military Reservation, in Monroe County. The license was effective August 1, 1938, having been signed by the Assistant Secretary of War May 28, 1938. The license covers approximately 19,000 acres of this famous Military Reservation, upon which the Commission is privileged to establish several game refuges, using for such purpose as much of the area as may be required. Under present plans three refuges, containing respectively 630 acres, 230 acres, and 360 acres, will soon be established.

The major portion of the area will remain open to public hunting in accordance with Pennsylvania Laws.

The Commission will take such practical and effective measures as it can to improve hunting conditions throughout the area. It may plant game food-producing trees, shrubs, and vines, as conditions may require or permit, subject, however, to such military requirements as may be determined, from time to time, by the Commanding General of the Third Corps Area, or his duly authorized representative.

Approximately 1700 acres of the reservation have been reserved by the War Department for military purposes and will be closed to hunting at all times. Attention is invited to the map reproduced on the inside of the back cover of this issue of the GAME NEWS. The principal area reserved for military purposes is north of the Lackawanna Trail between the town of Tobyhanna and a high point known as Powder Smoke Ridge. Likewise, the several firing points and impact areas indicated on the map and required for artillery practice will be closed to the public. All areas closed will be posted with appropriate signs by the Commission.

The posters for the artillery impact areas will contain the following information:

DANGER
ARTILLERY IMPACT AREA

All persons are warned against going upon this area

Do not touch or go near a shell which might be found as it may not have exploded

Such shells may explode if moved even slightly

By order of
The Commanding General
Third Corps Area, U. S. Army
and
The Pennsylvania Game Commission

The area specifically reserved for military purposes, approximately 1700 acres, will be posted with signs containing the following information:

NO HUNTING

This area reserved
for
MILITARY PURPOSES
and
CLOSED TO HUNTERS

By order of
The Commanding General
Third Corps Area, U. S. Army
and
The Pennsylvania Game Commission

It is a duty of the Commission, of course, to maintain for game protection purposes such force of Game Protectors on the area as may be necessary for proper enforcement of State Game Laws. Violations of the Game Laws will be prosecuted in the proper courts of the Commonwealth. On the contrary, all cases involving violation of the military regulations shall be turned over to the Government Caretaker on the reservation and prosecuted in the proper Federal Court.

The United States Government will not be responsible for any damages to persons or property which may arise in exercise of the privileges authorized by the license nor for damages to person or property of officers of the Commission who may be on the reservation by reason of the license. Persons hunting on the reservation are cautioned accordingly.

The Commission and sportsmen of Pennsylvania deeply appreciate the splendid spirit of cooperation demonstrated by the War Department, and particularly the officers of the Third Corps Area at Baltimore, in their compliance with Pennsylvania's request to institute game management practices and provide public hunting on the Tobyhanna Military Reservation. Heretofore hunting by the public was permitted only upon permit which had to be secured from the caretaker on the reservation near the town of Tobyhanna.

The reservation may be reached from the Lackawanna Trail, State Highway Route No. 611, as well as from State Highway Route No. 490 between Tobyhanna and Pocono Lake.

EDITORIAL

(Continued from Page 3)

cause for alarm as was first indicated. To the contrary, by comparing the posted acreage made under the present survey with a similar tabulation made back in 1934, it appears that the total acreage of farms posted against trespass have decreased from 4,059,599 acres to 3,988,122 acres, and that farms posted, but occasionally hunted, have decreased from 2,699,096 acres to 2,614,104 acres. This indicates, subject to inaccuracies in estimates, that posters have been removed from farms totalling 156,469 acres since 1934. All acreages are estimates, and since the personal equasion is bound to creep into estimates we may not be justified taking these figures as conclusive. However, from comments received from the various District Game Protectors, it seems clear that in the State as a whole the posting of farm acreage has certainly not increased in recent years.

To the contrary, the figures indicate a slight increase in the posting of forest acreage has taken place. According to District Game Protectors' estimates, posted woodland acreage has increased from 1,171,752 acres in 1934 to 1,394,386 acres in 1938, and that the acreage posted but occasionally hunted has increased from 549,167 acres to 644,752 acres.

There is a land total of 28,692,480 acres in the Commonwealth. The survey made of the farm acreage throughout the sixty-seven counties shows that of this area 3,988,122 acres are totally posted, and 2,614,104 acres posted but occasionally hunted. Of 8,980,497 acres of farm-owned forest land 1,394,386 are posted totally and 644,752 are posted but occasionally hunted. The number of farm and forest acres posted in certain counties varies widely, depending largely upon the local hunting pressure.

Whether this posted acreage of hunting grounds shall decrease or increase in the future is largely dependent upon the manner in which the real sportsmen of the Commonwealth cooperate with the landowners and the Game Commission. One of the surest remedies is to respect the landowner's rights and protect his property, and to report at once to the nearest Game Protector or the office of the Commission at Harrisburg every case of property damage or other vandalism that comes to your attention. Get the hunting license number or the automobile license number, or both, with all the facts, and urge all your friends to do so.

By recognizing the landowner as our hunting host, and helping him to protect his property, we can reduce the posted land acreage greatly in Pennsylvania this fall.

THE PENNSYLVANIA DEER PROBLEM IN 1938

(Continued from Page 7)

shooting, a statewide open season. *Except as might be provided by permits,* this assures the least concentration of gunners and the smallest likelihood of over-shooting because both are controlled by the abundance of deer throughout different portions of the range. Such regulations also enable the removal of deer from all agricultural areas where they may be causing property damage.

Because of the obvious shortage of breeding males and great preponderance of females, the breeding season of the deer has been prolonged far beyond normalcy. This, together with the winter stunting discussed heretofore, has in part resulted in the increased percentage of runts common to the herd through the production of late-born fawns which seldom develop normally. To help correct these conditions an open season for the killing of antlerless (which are largely female) deer has been declared. A minimum weight limit has purposely been omitted from the shooting restrictions because when previously tried it has proven highly unsatisfactory. It frequently penalized true sportsmen for slight errors of judgment easily made by some of the best of hunters, while it also prevented the legal removal of numerous small, undesirable individuals from the herd.

Some sportsmen feel that an antlerless season with no minimum weight limit results in tremendous harm through the shooting of young male fawns, or "button bucks". It has been found, however, that the percentage of button bucks killed during any antlerless season usually is comparatively small. For example, a study of the 1935 antlerless kills (7) showed that only one out of every nine animals killed was a male fawn. Since the 1938 open season protects all mature males, which we should naturally expect to be sound breeders, and since it is questionable whether many of the male fawns would ever develop into desirable sires even though granted absolute protection, it would appear sound to sacrifice a limted number of buck fawns by taking steps which are certain to effect a better balance in the sex ratio of the herd.

All past antlerless seasons have worked to the advantage of the general well-being of the herd in that they have helped thin out the animals in sections carrying excessive population densities; in that they have helped to maintain a balanced sex ratio; and in that they have invariably been followed several years later by an increased kill of better bucks. Below it will be noted that the legal kill of antlered bucks the second year following a heavy kill of antlerless deer, when the effect of killing button bucks during the previous doe season should be most pronounced, was always larger than the year previous to such doe seasons.

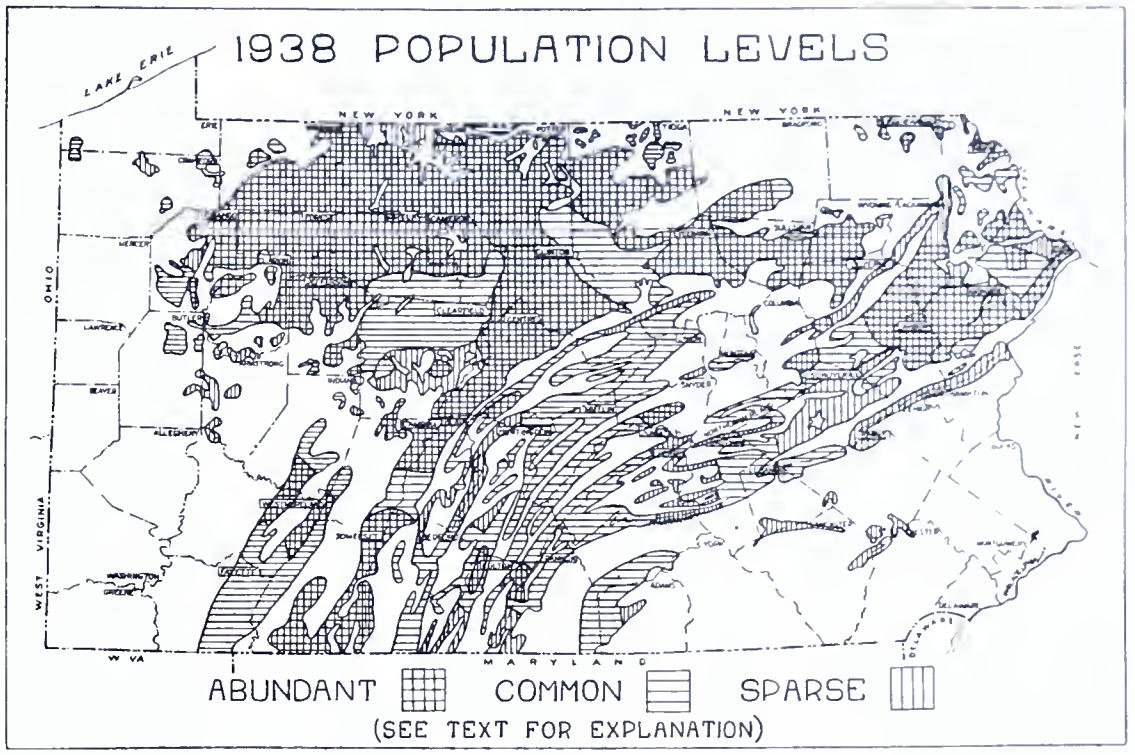


Figure 11

PENNSYLVANIA DEER KILLS
1923-1937

Year	*Antlered Males*	*Antlerless* *
1923	6,452	8
1924	7,778	126
1925	7,287	1,029
1926	11,646	1,295
1927	14,374	None
1928	None	25,097
1929	22,822	None
1930	20,115	5,979
1931	24,796	70,255
1932	19,724	None
1933	20,480	None
1934	21,137	None
1935	23,802	46,668
1936	18,804 **	None
1937	25,009 ***	None

* Includes both males and females.
** Following excessive winter kill.
*** Preliminary estimate of Game Protectors.

Longer anterless seasons than that declared for 1938 have taken place in the past and the herd has not suffered irreparable damage, as many claim. Thus, in conclusion, it should be borne in mind that since the deer is not a grazing animal depending upon grasses and sedges for winter feed, *but a browsing species which feeds on the tender green shoots of woody forest plants,* the size of the herd must be maintained at different levels commensurate with the food supplies offered by the forests as they pass through their various developmental stages.

GAME-KILL TABULATION REVEALS ASTOUNDING FACTS

(Continued from Page 5)

very definite instructions to all license issuing agents for this year relative to the requirements of the law. Applicants for licenses will be required to furnish positive identification, *especially as to place of residence and citizenship.* Pennsylvania voters' registration cards are suggested as one of the best means of identification.

All of the Game Commission's officers in the field have likewise been instructed to check with the license issuing agents from time to time to make certain that the instructions of the Revenue Department are being adhered to, and to take advantage of any information they may have been able to collect. Furthermore, *officers in the field have been instructed to require positive identification in addition to the hunting license whenever in their judgment such demand is justified.*

The Commission appreciates the splendid manner in which more than 88% of the license holders have cooperated in its first serious attempt to secure a complete tabulation of the game killed, which also has been so tremendously helpful in eliminating those who are not entitled to hunting licenses. If like cooperation is forthcoming this Fall, and the 1938 season reports will be submitted *prior to January 15 as required by law,* it should be possible to complete the tabulation and announce the total kill of game for 1938 not later than April 1st of next year.

TULAREMIA AND THE SPORTSMAN

(Continued from Page 9)

for half a block. It does not suggest that you shall kneel down and turn over, handle or pick up every dead rabbit, ground squirrel, crow, buzzard, or even the carcass of a field-hunting cat, you might discover. Remember that fleas, particularly, at once leave the body of anything which dies. Ticks will stick for a time on a carcass, and flies of course will feed on and lay eggs in carrion.

What I mean to suggest and teach is *caution*! Use judgment, discernment and common sense in your field shooting. You would not pick up a soiled or bloody handkerchief to use or examine it, unless perhaps, you felt that you had a call to be an amateur detective. The average person of poise and perception would avoid such things. Likewise, the experienced outdoorsman will try to avoid any possible infection from Tularemia.

D. Typhoid. The word is used here only as descriptive of the great depression and rapid loss of strength of this form. No relationship WHATEVER exists with the fever of that name—Typhoid Fever. The source of this form of Tularemia has not been determined but it probably results from eating infected UNDERCOOKED meat. It will not result from rabbit or other meat, NOT infected, regardless of how cooked. But it may result from infected flesh, NOT properly cooked. There is not present a local external sore and no enlargement of the glands; all symptoms are of the entire body with high temperature, proportional pulse rise and weakness. There is also a quite RARE form known as Tularemic Pneumonia in man, usually very sudden in onset, cough, sputum mixed with what looks like stringy prunejuice to the home folks, but which is really changed blood. The duration of this type in man is usually short with always fatal ending.

Now let us consider which animals or birds are susceptible to Tularemia. These include the wild rabbit, ground squirrel, hare, chipmunk—the pretty little striped fellow along the stumps and down logs, the coyote, the woodchuck, porcupine and some few of the game birds. Crows are at times infected, as these feeders on farmland grains and birds eggs are not at all averse to a meal on infected carrion. The turkey buzzard might be a possible carrier. Transmission from infected animal to animal, or from animal to man, is by blood-sucking flies, lice, ticks, fleas, etc. We all know that field hunting cats and dogs pick up fleas, cattle pick up ticks, people pick up both, flies bite them all. Hence the spread of disease from animal to man, from bird to man, from one to another, can become a constant spread of a dread infection of much concern to us all. And of particular concern to sportsmen and varmint hunters and all who live or spend much of their time in the game fields. Again, may I suggest, be careful!

Various other diseases have been so spread, in addition to Tularemia. With the advance of medical science, we learn more and ever more of those questions of the host to infection, the carrying medium and the victim. Fortunately we not only learn more about how and where we get such things but we also learn even more about how to treat them and how to avoid them. May I suggest a word or two soon on how to AVOID becoming infected with Tularemia?

Animals suffering from this malady, when viewed in the field, from an ordinary shooting distance, have a generally sick appearance. Sick looking when resting on fence, rock, in their form, on a stump or a log. They are indolent, spend little time in feeding and are not at all choicy about the selection of food. When disturbed, their retreat or getaway is slow and lacking in vigor. Of course, not all sick-looking animals mentioned have Tularemia, but they MAY be infected. Act accordingly. Don't overlook the deer flies feeding between them and you!

The generally informative outline given above is intended only to convey an idea of the seriousness of the disease, its widespread area of attack, how such attacks occur, and what causes them. It is not intended to cause needless alarm or to give the impression that Tularemia lurks just around the corner and is present on every deer fly's feet. But it should suggest immediate consultation with a physician, YOUR physician, for direct treatment, as indicated. Do not expect the doctor to have in his medicine kit or his little black bag, a vaccine or a serum that will put you back to work in a day, or ready for another tour afield in a few hours; or that will immunize you to possible attacks. There is no such cure as yet!

But, if you have been exposed to possible Tularemia infection, and a pimple turns into an ulcer, and you feel all in, go to bed and call the doctor.

Prevention? Yes! Now you are THINKING!

May I suggest: Do not hunt or wander around through farmland or fields in which you occasionally find a sick or a dead rabbit, obviously not a shot rabbit.

Do not attempt to pick up or handle sluggish animals of the above rodent-vermin list. Do not bag such if sick looking, and then do not take home for food.

Do not continue to dress animals with internal or external evidences of disease. Do not depend upon cooking to remove "any trace of possible infection." You may pick up something before even getting the game dressed.

Do not eat game meat not thoroughly cooked through. This does not mean you must burn it to a crisp, but it does suggest that you not eat it half-raw or still with the natural raw-meat color.

Do not continue to hunt about, or sit around in places where deer flies are in numbers, are biting viciously, and just ready to set upon you for a bite and a juicy meal.

If you develop symptoms, in spite of all reasonable precautions, call your doctor.

May it not be possible that we are entering the period where disease-carrying insects and pests may be controlled, where they may be discussed in sportsmen's magazines, in their meetings, around the country store even, so that the personal safety of the field shooter may be still further guarded day by day? For your own personal safety afield, common sense would suggest a pair of neat, light weight, well-fitting, insect-bite-proof gloves (not gauntlets), covering the wrists as well as the hands, when shooting in districts where Tularemia infection is known. Wear these or rubber gloves when dressing rabbits or skinning specimens that might be infected.

A loose-knot handkerchief well spread over the back of the neck, so long worn by the true cowboy of fact and fiction, would afford rational protection against blood-sucking flies attacking the neck, and some protection against ticks. Hesitate not at all in adopting sensible field accouterments. Be reasonably and sensibly prepared so that you may not become a victim of the first fly, flea or tick that sees you coming.

Tularemia among rabbits and contracted from rabbits and ground squirrels has been mentioned before. I have tried to point out here, for the common good of all, that the field of possible infection is much more extensive, and the commonest pests of the insect world may prove the most dangerous, because they are found in the most places, in the greatest numbers, and are commonly the most annoying.

Let us look into tomorrow with the thought uppermost in mind that we will use that bit of care, that sensible forethought, which will take advice or suggestion, and make tomorrow's sport both reasonably safe and successful.

BE SURE YOU HAVE PROPER IDENTIFICATION WITH YOU WHEN YOU APPLY FOR YOUR HUNTING LICENSE AND WHILE YOU ARE IN THE FIELD. BE SURE YOU SIGN YOUR LICENSE

ALL HUNTERS ARE URGED TO MAKE A SPECIAL EFFORT TO ENCOURAGE THE GOODWILL OF THE LANDOWNER THIS SEASON BY EXTENDING EVERY COURTESY POSSIBLE TO HIM. MAKE FRIENDS FOR YOURSELF AND YOUR SPORT

MANAGEMENT OF THE RED FOX

(Continued from Page 12)

From a critical scrutiny of the data we have gathered over a period of years, it is hard to see how the relative scarcity or abundance of foxes has made any difference so far as the population levels of the bobwhite were concerned. Some instances of heavy predation of foxes upon quail have been recorded, but these, in analysis, proved to represent only the increased pressure of predators always to be expected when large numbers of birds are weakened as by hunger or when they over-populate their habitable environment. On the area having the highest fox population we have ever observed —about 5 grey foxes wintering per square mile—we found that the bobwhite loss rates for the season were nearly identical on both the portions of the area that were hunted over by foxes and those that were not.

The objections of the bird hunters to foxes on the grounds of pheasant preservation seem to be most in keeping with the facts. This does not mean that we cannot have foxes if we are to have pheasants, as many instances could be cited where pheasants and foxes abound in the same localities and have for years. It seems as if we may have pheasants in the majority of places where the living conditions are favorable to them, whether foxes are there or whether they are not, although foxes may at times kill considerable numbers of the birds.

It should be pointed out, however, that we have found it so difficult to obtain numerically exact census figures on pheasants and to evaluate the effect of shooting—legal and illegal—that we have practically no data from which to calculate the carrying capacities of different observational areas. We don't know how definite carrying capacity of pheasant environment is from season to season or how close may be the relationship between existing pheasant populations and carrying capacity. Lacking such fundamental knowledge, the best we can do, for the present, is to guess at the significance of predation upon pheasants by foxes or by any other predators.

Neither do we know much about the significance of predation upon Hungarian partridges, nor upon a number of other game species which are also subject to a varying amount of pressure from foxes.

The Public and the Fox

The importance of the red fox as a fur-bearer deserves some space in this discussion. According to figures supplied by the Iowa Conservation Commission, 18,350 pelts of this species were sold for $76,598.75 by the hunters and trappers of the state from the winter of 1931-'32 to that of 1934-'35. This represents an average return of $19,150.00 annually for four depression years when the prices received averaged but $4.12 per pelt. The sale of live wild pups has brought an additional return of several thousand dollars annually for recent years, the principal dealer in the state paying in the vicinity of $5,000.00 for approximately 2,400 pups during 1935.

Finally, there is the esthetic value of foxes and other wild creatures to a group which, I suspect, actually includes most people of sincere outdoor interests. We, as human beings, have our prejudices and our squabbles, and we may strain to justify our stand on wildlife questions in terms of economics, biology, or sport, or in other ways; but, for all of that, the real reason that many of us want to have living things around is simply because we want to.

Our tastes may differ as to what we may want around, but as long as we stay within our decent rights and respect the rights of others, we should be entitled to some choice in the matter. Other things being equal, the man who would rather look at a fox track in the snow than watch a dog point a covey of quail, or vice versa, should be free to do so, without apologies, explanations, or the risk of being regarded as a crank.

Control of the Red Fox

For the control of foxes in Iowa, I would advise, on principle, against the use of poison, the gassing or destruction of dens, the payment of bounties, the indiscriminate killing of adults or young at seasons when the pelts are valueless, or any other measures that may result in unnecessary waste or may have potentialities in that direction.

In the event that extreme provocation or immediate circumstances may call for action more drastic than winter hunting, such should be undertaken with full awareness of any short-comings and dangers that may be inherent in whatever systems may be employed.

I would suggest that we continue to strive for an intelligent understanding of predation as a natural phenomenon. When really severe depredations occur, there is generally a good reason; and we could well afford to know a little more about what we are trying to do and why.—EDITOR'S NOTE: This article is published in order to show *all* sides of Br'er Raynard. Too often only one side is presented. A much misunderstood animal he is likewise too often unjustly condemned. It is to show *all* sides of wildlife—game birds, game animals, fur-bearers, and predators, that the Pennsylvania Game Commission is now conducting complete surveys of their life histories. Without such knowledge it is impossible to manage wildlife properly.

WHAT YOU CAN DO ABOUT CONSERVATION

(Continued from Page 10)

Leave the vines, cedars and milkweed along the fences, for only under such cover can the bobwhite live. All over the country, in spring, the well-intentioned set brush fires, killing the native vegetation and letting in gangster plants —ragweed, burdock and thistle. My neighbors started their fire so late that it caught the ground birds in nesting season. We found pheasant eggs and song-sparrow chicks roasted in their cradles.

Statutes are bootless without popular support. The man who breaks the conservation laws is a thief, stealing from the public heritage, and he should be condemned as such. Yet I know a southern banker who has spies telephone him from the local lake whenever wood duck alight. The government has closed the season on these beautiful little survivors the year round; the banker thinks it a joke to serve them at his table. Public opinion should run that joke out of town.

The law of public opinion is its own police force. Around our national capital the dogwood, Virginia's state flower and the glory of the Maryland hills, was rapidly vanishing as truckloads rolled to market. The Wildflower Society started a publicity campaign each spring, asking citizens to help save the dogwood by neither buying nor picking any. The campaign was a complete success.

We need Nature, just as it needs us. A woman in Massachusetts, bereaved, crippled, on the verge of losing her reason, was brooding on her misfortunes when a chickadee alighted at her window, which overlooked a woodlot. She gave him crumbs, and he gave her hope. The sill became an unofficial station where birds were fed, banded, recorded. Today the woodlot is a bird sanctuary, administered by trustees, its floral and feathered beauty preserved for posterity.

In Louisiana there is a regular business in game poaching. Woodcock are illegally hunted with lights at night, or baited and trapped, then sold to northern hotels and "sportsmen's" clubs. These game bootleggers are often otherwise criminal. Biological Survey men, in a battle which left several of them severely wounded, recently arrested a ring of southern game hogs, all of them already wanted for murder or larceny. You can back up such men as those who caught the criminals by buying a "duck stamp" for a dollar at your post office. Each issue is a philatelic item, for a famous artist engraves a new one every year, and all unsold on December 31st have to be destroyed. The dollar goes to pay wardens, feed game animals in time of scarcity, and establish refuges.

Complacently we say to ourselves that conservation is a good thing, "but what can I personally do about it?" Plainly, we can do a good deal. For personal conscience is the beginning of conservation. And when conscience moves you to save wildlife, the sheltering trees, the fowl of the air, the waters upon the earth "and all that in them is," you are saving America.

WILDLIFE AND A NATIONAL LAND USE PROGRAM

A Radio Talk by Hon. Henry A. Wallace
Secretary U. S. Department Agriculture

WITHIN the past four or five years people both inside and outside the Federal Government have come to see that wildlife has a definite stake in a national land-use program. The wildlife groups have convinced the land-use experts that their wildlife conservation programs have something to contribute to soil conservation and water conservation, and land-use experts have helped the wildlife groups see the interdependence of all uses of land and especially of the organic, renewable resources which are products of the soil. In our office of land-use coordination in the Department of Agriculture, the wildlife representatives work with the foresters, the agronomists and soil experts, the plant and animal specialists, and the economists. When the Government buys submarginal land today, it buys some suitable for wildlife conservation. When some other use is primary, such as reforestation or soil conservation or water storage, the Biological Survey sees to it that wildlife conservation comes into the picture as a secondary but still important use.

It used to be the general opinion that our wildlife resources were exclusively the concern of hunters, trappers, and fishermen. Farmers liked some forms of wildlife because they fed on insects and weed seeds, but declared war on other beasts and birds under suspicion of feeding on cash crops or livestock. The war sometimes included hunters and fishermen who trespassed on the farmer's land. Now we know that there is cash income for many in wildlife, there is sport for many more, there is quiet enjoyment for millions and millions of others, and there is now a secure place for wildlife conservation in our developing national program of wise land use.

Today it is unusually important for wildlife groups to recognize that wildlife conservation cannot be divided into opposing interests. Good administration will not permit the development of conflicting conservation programs on public and private lands, and good economics will not permit the use of any land without continual reference to what is the major use of land today; namely, agriculture. A conservation program which leaves out of consideration the owners and users of more than half our total land area does not make much sense. The national program of land use which has been taking shape during recent years in the Department of Agriculture begins with this major use of the land and seeks continuous integration of this use with all others. With your help, wildlife conservation will continue to hold its proper place in this program.

If we could go back to that remote age when all of central Asia was a rich, well watered and productive land, and trace the story of its destruction, we would find that the ultimate catastrophe had been forecast by certain signs and phenomena of a sort that we have observed in recent years here in America. We would observe a process of deforestation, of unwise drainage, of futile attempts to cultivate the increasing areas of submarginal land. There were floods and droughts and dust storms of mounting intensity and frequency throughout the centuries. Beginning with the large animals and gradually extending to other forms, the native species of wildlife decreased and finally became extinct or nearly so as the vegetative cover disappeared and the water reservoirs dried up.

In our planning to prevent an identical catastrophe in our own land we must coordinate the activities of farmers, sportsmen, nature lovers and conservationists of every degree and interest. We have organizations interested in forestry, others that are interested in clearing lakes and streams of pollution. There are wilderness societies, there are associations established for the preservation of big game and still others to promote the welfare of fish, of wildfowl, of upland game. In fact, one can scarcely name anything in Nature that does not have a group of enthusiastic friends whose efforts are dedicated to its preservation. All told there are millions of individuals in the United States who are making contributions of one sort or another to conservation of our natural resources.

In the past four years, however, warned by sensational floods and droughts and dust storms, even the general public has acquired an active interest in the subject of wise land use. There is today an increasing concern for all our organic resources and there is a determination to establish workable, effective methods of administration for the wise use and most profitable management of these resources that are renewable but which unfortunately are also exhaustible.

The national program has not overlooked the needs of wildlife. Approximately 3,000,000 acres of land unsuitable for agriculture has been added to the national system of waterfowl refuges. When this system is completed, it should have a total area of 7,500,000 acres if the minimum needs of waterfowl are to be met. While these refuges are primarily beneficial to wildlife, they are also of distinct service to soil conservation, to flood control, and to alleviating the worst effects of drought.

COPY OF STATEMENT AS FILED WITH NEW CUMBERLAND POST OFFICE OCTOBER 1, 1938

Statement of the ownership, management, circulation, etc., required by the Act of Congress of August 24, 1912, of Pennsylvania Game News, published at Harrisburg, Pennsylvania, for October 1, 1938.

Before me, a notary public in and for the State and county aforesaid, personally appeared Leo A. Luttringer, Jr., who, having been duly sworn according to law, deposes and says that he is the editor of the Pennsylvania Game News, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Commonwealth of Pennsylvania, Pennsylvania Game Commission, Harrisburg, Penna.; Editor, Leo A. Luttringer, Jr., Harrisburg, Penna.; Managing Editor, Leo A. Luttringer, Jr.; Business Manager, Leo A. Luttringer, Jr.

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Signed: Leo A. Luttringer, Jr.

Sworn to and subscribed before me this 31st day of August, 1938.

Signed: Miss Lucille A. Stroup, Notary Public.

(Seal) Commission expires March 5, 1939.

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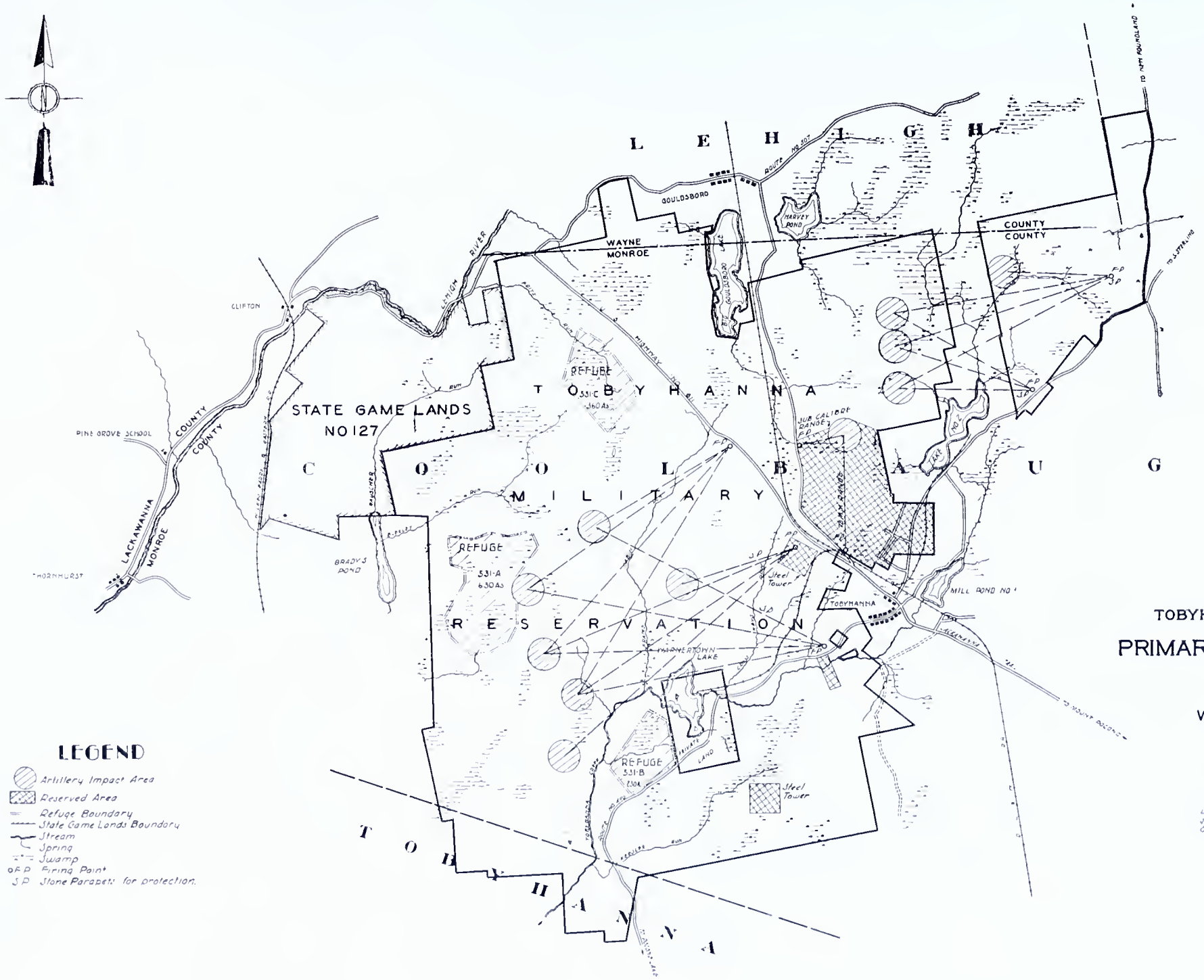
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NO. 531.

WAYNE & MONROE COUNTIES

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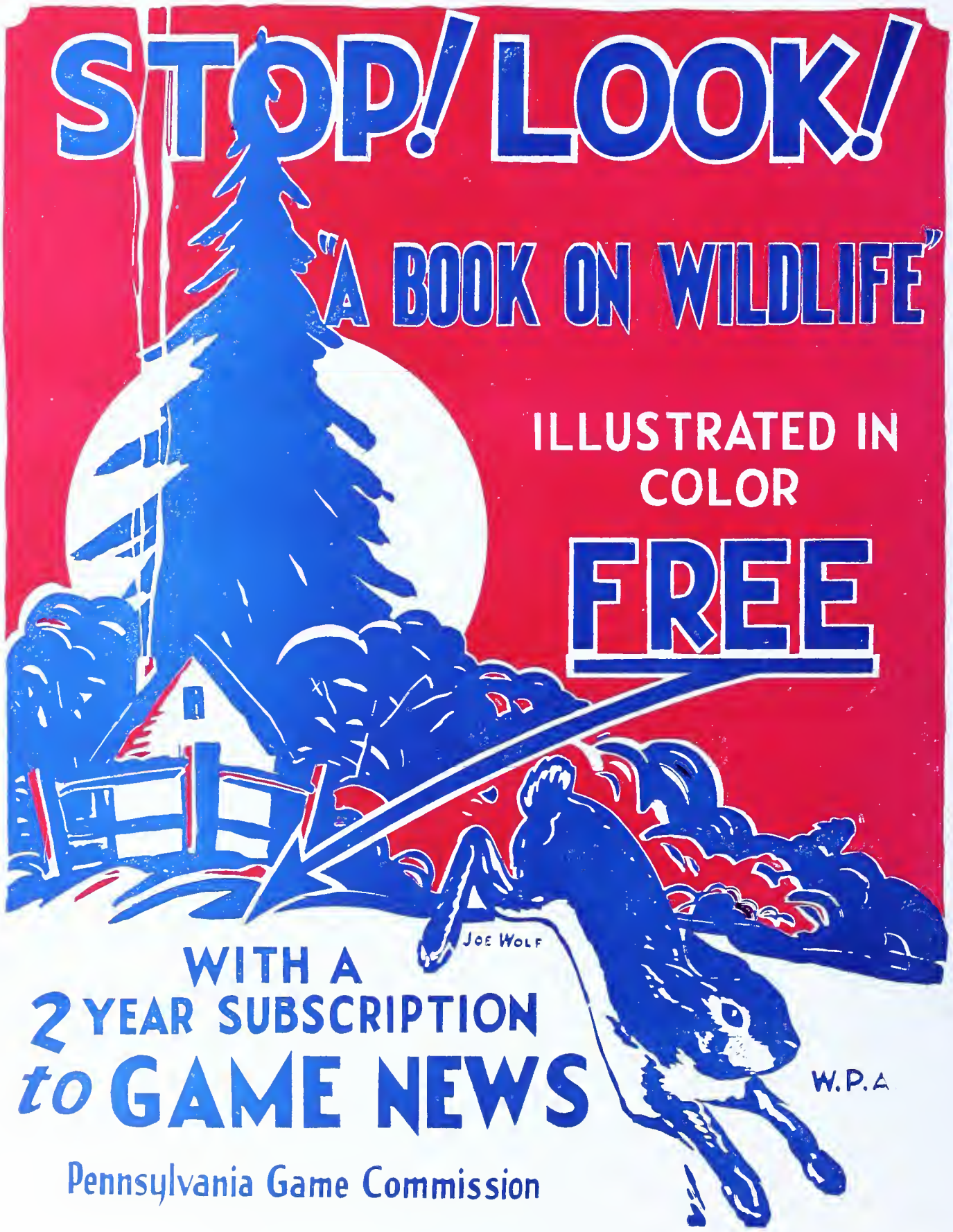
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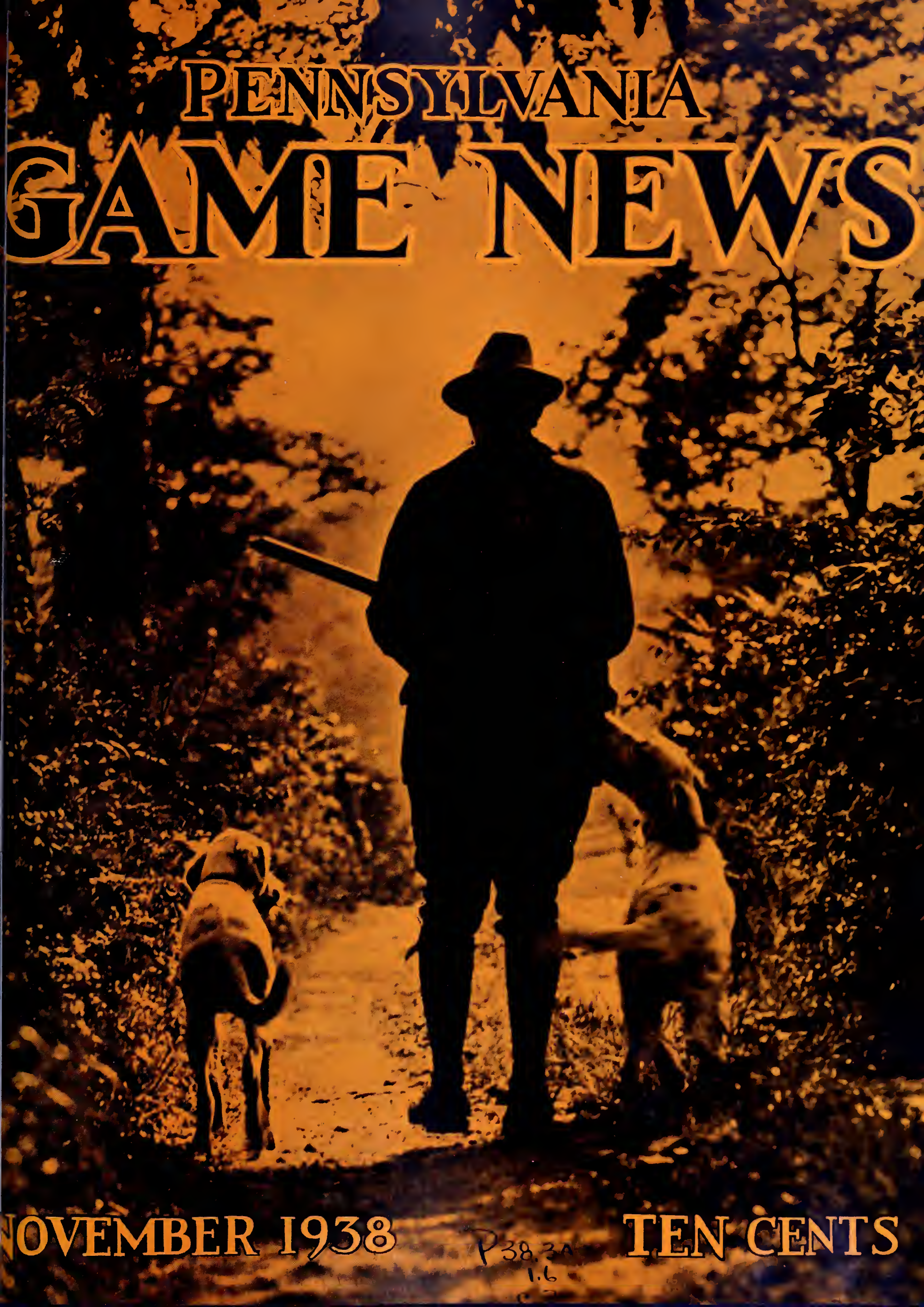
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NOVEMBER 1938

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Published monthly at Front and Reno Sts., New Cumberland, Pa., for Pennsylvania Game Commission, Harrisburg, Pa.
Executive and Editorial Offices, Commonwealth of Pennsylvania, Pennsylvania Game Commission, Harrisburg, Pa.

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Material for each issue should be submitted not later than the FIRST OF EACH PRECEDING MONTH.

Permission to reprint will be granted provided proper credit is given.

Entered as second class matter at the Post Office of New Cumberland, Pa., under Act of March 3, 1879.

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Prayer of a Sportsman

By WILLIAM LYON PHELPS

Dear Lord, in the battle that goes on in life,
I ask but a field that is fair,
A chance that is equal with all in the strife,
A courage to strive and to dare;
And if I should win, let it be by the code,
With my faith and my honor held high,
And if I should lose, let me stand by the road
And cheer as the winners go by.

And, Lord, may my shouts be ungrudging and clear,
A tribute that comes from the heart,
And let me not cherish a snarl or a sneer
Or play any sniveling part.
Let me say, "There they ride on whom Laurel's bestowed,
Since they played the game better than I."
Let me stand with a smile by the side of the road,
And cheer as the winners go by.

So grant me to conquer, if conquer I can,
By proving my worth in the fray,
But teach me to lose like a regular man
And not like a craven, I pray
Let me take off my hat to the warriors who strode
To victory splendid and high.
Yes, teach me to stand by the side of the road
And cheer as the winners go by.

PENNSYLVANIA GAME NEWS



It is true that the great delight I took in this exercise (hunting) bid fair to withdraw me from my art and studies; yet in another way it gave me more than it deprived me of, seeing that each time I went shooting, I returned greatly benefitted in health, because the open air was a benefit to my constitution. My natural temperament was melancholy, and while I was taking these amusements my heart leapt up with joy and I found that I could work better and with far greater mastery than when I spent my whole time in study and manual labour. In this way my gun, at the end of the game, stood me more profit than loss

Benvenuto Cellini

'ol. IX, No. 8

EDITORIAL

November, 1938

BORROWED TIME

THE middle aged man or even those past thirty-five, who think they can eat a heavy breakfast and then run to catch a bus, are ving on borrowed time. This is true even more of those who, after leven months behind their desks, hie forth each fall with gun and og in pursuit of their favorite sport. Too often such people do not ake stock of themselves. First, they never think of trying to limber up neir muscles several weeks in advance of the hunting season by taking nort walks afield. Instead, they let their old enthusiasm get the best of nem and usually return from the first day's hunt completely all-in. Hunting can be a great deal of pleasure, or it can be a lot of work, epending upon what the individual makes it. Many hunters make it wfully tough for themselves. They carry unnecessary and bulky equip-nent and when they hunt they literally race through the fields, believing nat in order to get the most game they must cover the most territory n the quickest possible time.

Oldsters, who go into the big game camps, and who after a heavy reakfast of flapjacks and sausages, immediately set out up the side f the mountain in order to go on watch, are certainly living on orrowed time. Even if the exertion doesn't kill them, it certainly loesn't do them any good. The same thing applies to the younger ucks, if they only knew it. Every year, a number of hunters die in the field from heart failure. The chances are that nine out of ten of these fellows would have lived to a good old age had they used a little common sense. The trouble with most of them is that their eyes are larger than their stomachs, and their imaginations greater than their physical capabilities.

The man who takes a gun in the field without first familiarizing himself with it and learning how properly to operate it, is also living on borrowed time. So is the man who forgets entirely the rules of safety first and goes blasting away here and blasting away there whether he is shooting at game or not. The World War has been over for twenty years, yet there are some fellows who seem to think it is up to them to furnish the echo. If you want to spend your full time upon this earth, if you want to enjoy a lot of hunting seasons before you die, just take it a little easy. Remember, you're not the spring chicken you used to be. If that old ticker of yours starts to hammer just going up the stairsteps after a light breakfast, what do you think it's going to do when you start climbing the side of a mountain with a belly full of flapjacks and sausage? You figure it out.

In closing, there is just one more way of living on borrowed time. That is to read everything said about the matter in this little editorial and then promptly forget all about it.

THE SMALL GAME SEASON

NOVEMBER, the month when the Red Gods call, is again with us; and Pennsylvania's 600,000 hunters should enjoy a fine small game season.

Having practically recovered from the devastation of the 1935-36 winter, our small game supply on the whole is on a par with normal years, and that is why the Game Commission was more liberal in its declaration of seasons and bag limits this year.

However, these more generous regulations should not be misconstrued. They are not a signal to open the throttle wide and to kill small game in unsportsmanlike numbers.

If our sportsmen hope to enjoy good hunting seasons in the future they must continue to restrain themselves and conserve ample seed stock. It is penny wise and pound foolish to kill the last few birds out of any flock on the flimsy excuse that somebody else will do it anyhow, or that the poor creatures may starve to death or die of disease. No one but a fool salves his conscience with such silly arguments.

The sensible thing is to *hunt for sport*, enjoy the companionships of the great outdoors, kill in reasonable quantities, and return at the end of the trip with a thrill, not a carload of meat.

After all, seasons and bag limits are merely guide posts by which it is hoped to control those who lack foresight, those who do not think of the years ahead. Bag limits are *certainly not* a mark at which to shoot, as many thoughtless persons seem to think. Those who deliberately set the lawful limits as their goal for the season are cheating themselves . . . . and their neighbors.

Speaking of saving seed stock, the more small game left at the close of the season, the better the chances for a bumper crop next year. The less we leave in our coverts, the poorer the chances for the future.

Our game supply is much like a bank. The bank contains the money its depositers put there. If they all draw out the full amount of their deposits at the same time the bank goes broke. During the past two seasons thousands of small game hunters put some of their allowable withdrawals of small game back into a savings account. They killed sparingly, and that is why our game supply is again increasing.

In the interest of our future sport during the Novembers to come, let us each resolve to keep that savings account intact this year, instead of using our checking account only. Let us each save ample seed stock, especially in the case of our ruffed grouse, our bobwhite quail, and our wild turkeys, and then we shall finish the 1938 season with that inner satisfaction which comes from doing one's part well.

Good hunting to you all! And lay your plans now to help feed that seed stock you save.

Dedication of the Pymatuning Refuge and Museum

By W. GARD. CONKLIN



A large and enthusiastic gathering of sportsmen, ornithologists, and nature lovers, many of them from adjoining states, participated in the dedication of Pennsylvania's first waterfowl sanctuary and museum. The ceremonies, which took place on Saturday noon, October 15, on Ford Island, the headquarters of the game refuge and museum, while not elaborate in design were, nevertheless, most effective and spirited in principle.

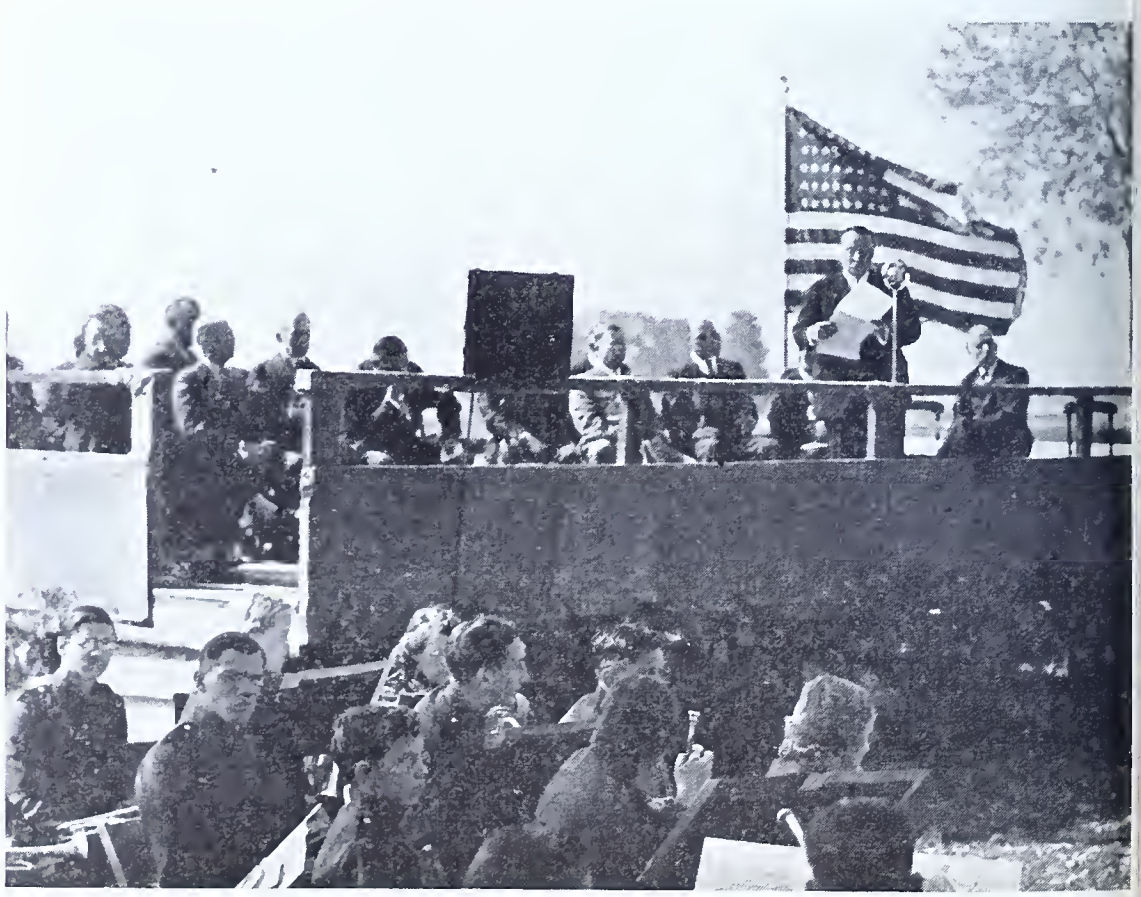
Governor Earle in a stirring address paid high tribute to the sportsmen of the Commonwealth, the Game Commission, Department of Forests and Waters, the Civilian Conservation Corps, and to other groups and individuals for their part in making the refuge and museum a reality. Dr. Ira N. Gabrielson, Chief of the U. S. Biological Survey, Washington, D. C., in an equally impressive address, also highly commended Pennsylvania for having made another great step forward in the field of conservation. Hon. L. Wooddell Commissioner, Ohio Division of Conservation, likewise acclaimed the refuge and museum, and commented on the splendid cooperation existing between Pennsylvania and Ohio conservation officials. Hon. Ross L. Leffler, Vice-President of the Pennsylvania Game Commission, presided at the dedication. Other speakers included: Dr. James G. Bogardus, Secretary, Pennsylvania Department of Forests and Waters; Hon. John M. Phillips, the grand old man of conservation (Pittsburgh, Pa.; and Hon. C. A. French, Pennsylvania Commissioner of Fisheries. Many other prominent governmental, civic and conservation leaders were present.

Although the Pymatuning State Game Refuge was established in 1935, no special recognition had previously been given this important event. However, with the completion of the headquarters and educational museum wherein are displayed almost 200 species of waterfowl, the Game Commission decided to fittingly acclaim both accomplishments.

Those attending the ceremonies were treated to a sight of many ducks and other waterfowl and shorebirds, in fact one of the reasons for selecting October 15 for the dedication and opening to the public was that the southern flight of migrating birds would be on at that time, and although not the period of peak flight many thousands of waterfowl could be expected in the region at that time. The fall migration usually starts with a few flights of wild geese early in September, and reaches its peak between October 20 and November 15. The peak of the duck and shore bird flights usually occurs between the 10th and 30th of November.

Mr. Leffler, in his remarks called attention to the reciprocal hunting rights to licensed hunters of either state on certain waters of the Pymatuning Reservoir, pointing out that the portion of the lake to which these hunting rights apply in both Pennsylvania and Ohio is that part bounded on the south by an east and west line crossing the state boundary five-tenths of a mile north of Simon, Ohio, and on the north by a line drawn between a point at which Padanaram Road crosses the state boundary to a point formerly known as a Polleck Bridge.

The significance of this agreement is that any



Governor Earle addressing gathering of sportsmen and other nature enthusiasts at dedicatory ceremonies. In the foreground are members of the Albion High School band which so effeiently embellished the program.

Dedication of the Pymatuning Refuge and Museum

erson holding a Pennsylvania resident hunter's icense may hunt migratory birds in season on ny waters of the lake between the north and outh boundaries above mentioned. In both tates, except of course such portions as may be et aside as game refuges which are plainly narked, no permanent blinds may be erected nywhere on the lake or the shores thereof.

A Pennsylvania hunter who goes upon the Ohio portion of the lake may not land upon the Ohio shores unless he has an Ohio hunter's icense. Likewise, an Ohio licensed hunter may ot land or hunt from any of the shores of that ortion of the lake in Pennsylvania unless he s in possession of a Pennsylvania non-resident unter's license. The Ohio hunter may, how-ver, hunt on all portions of the lake within he boundaries previously stated in Pennsyl-ania on an Ohio license if he does not land on he Pennsylvania shores.

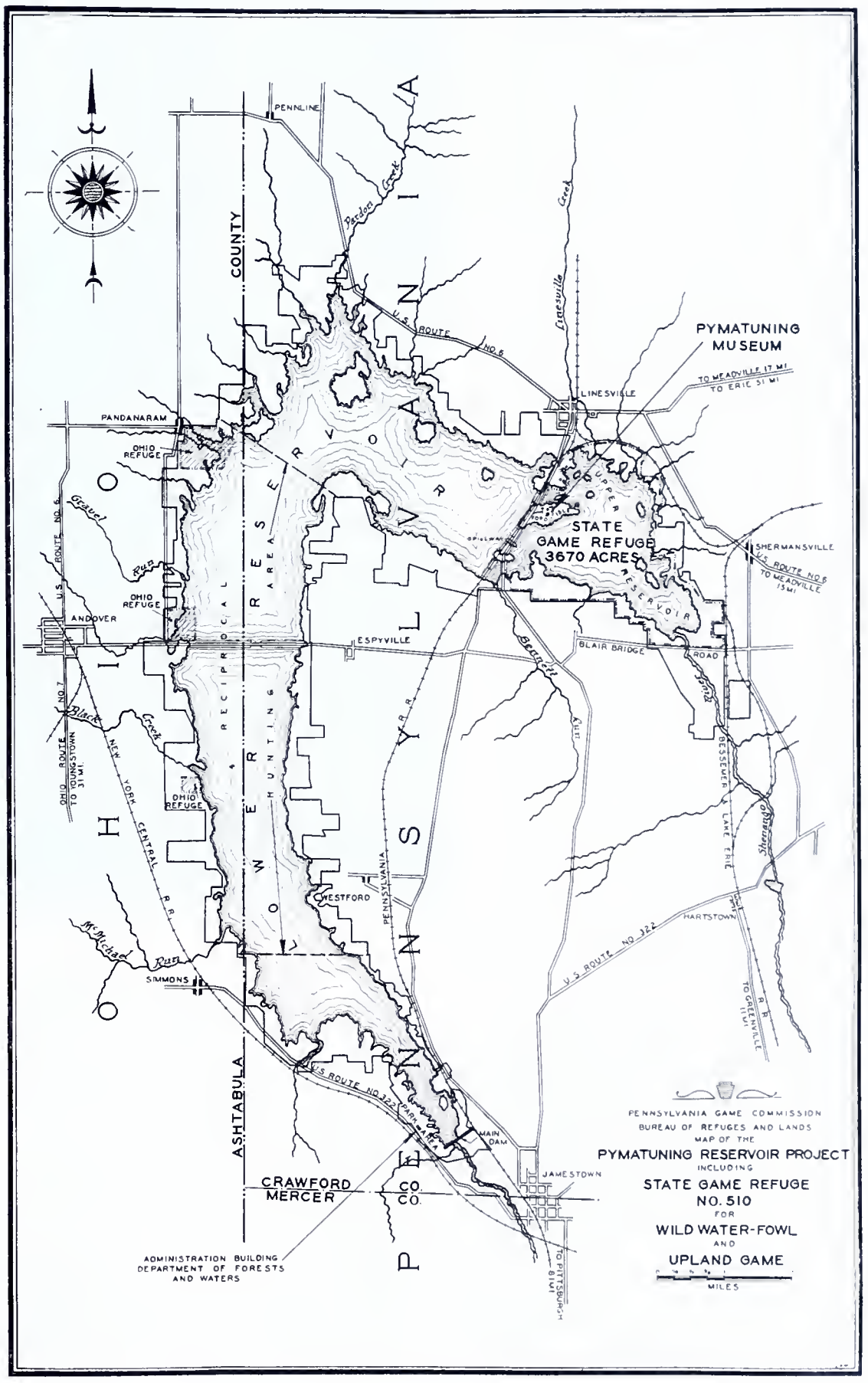
The Pymatuning Game Refuge was es-ablished in 1935 and comprises the Upper Reservoir of the Pymatuning Project. The Refuge contains 2,500 acres of water, and 1,170 acres of land. The establishment of this refuge was a long standing ambition of sportsmen and the Pennsylvania Game Commission, and is the largest and unquestionably the most important waterfowl refuge in this State. Although Pennsylvania ranked for many years as a leader in upland game restoration, it had been able to do very little toward the Nation-wide program to preserve and restore the dwindling supply of ducks, geese, swans, shore and other birds. This waterfowl refuge takes its place with Pennsylvania's renowned system of upland game refuges.

Shortly after the Upper Reservoir was flooded, luxurious growths of cat-tails, sedges, smartweeds, waterweeds, coontails, etc., made their appearance. To supplement this natural growth the Commission has planted large quantities of desirable species of marsh and aquatic plants to make the refuge the best possible feeding, resting and nesting grounds for wild waterfowl. It has become a veritable de Luxe feeding ground for waterfowl as well as upland game.

The Commission recently prepared a forty page bulletin entitled "The Pymatuning State Game Refuge and Museum" complimentary copies of which were handed out during the dedication of the new museum. It is well illustrated, and contains a brief history of the original Pymatuning Swamp as well as an explanation of how it was converted into a huge reservoir in order to maintain a more equal flow of water in the Shenango and Beaver Rivers below. It likewise contains an interesting account of the refuge and museum, facts concerning waterfowl that frequent the area and why the refuge is a mecca for wildlife. Those who were not present at the opening of the museum may secure copies of this bulletin, No. 19, at ten cents a copy, either at the museum or from the Commission's offices in Harrisburg.

KALBFUS MEMORIAL

Sportsmen's organizations and individuals desiring to contribute to the Kalbfus Memorial should send their remittances within the next few weeks. About $400.00 is still needed to finance this worthy cause, and Judd Turner, Assistant Director of the Game Commission, who is Treasurer of the memorial fund will be glad to hear from those who are interested in attaining this goal.



HUNTER'S CODE



COUPLE of years ago I was the guest of an old and dear shooting companion. With us was a mutual friend—but a rank novice in the field. Worse yet, he didn't love the sport—gave it up soon after. Fine chap that he is, he was a drag on us all morning. When the dogs would hit birds, he would hang back waiting for us to advance. Wanting to make a covert of him, my shooting pal and I would urge him in. When finally he would walk up, he failed several times to fire with the rise of the birds. After a long and pleasant lunch at the house, we even had trouble getting him out again. Since the first fields seemed barren of birds, we got into the car to try another spot a few miles distant. Half way there, as we drove slowly along, a big ringneck walked boldly in front of us, entering the woods that paralled the road. Out we got—and spreading, started into the woods. Likely the bird ran. I didn't hear him get up. And before long I found myself alone and quite a way from the road. Finally the bird flushed ahead of my dog. Soon a hen, also wild, rose well in front of me, boring deep into the woods.

Boy, the birds were here! This was the ideal place for a fine afternoon of shooting. Feeling certain hat my shooting pal and the novice were also finding game, I was surprised to hear the former's faint halloo. Standing still, I answered. And replying, he told me to come on back to the car. Provoked at this interruption in country where I had seen there was game, I shouted out the suggestion that we stay where we were. He called back that he knew where there were more birds. I hunted a few more minutes; and, while my dog was still making game, called him in. I started back to the car. The more I walked, the angrier I became. And when finally I reached the car, I exploded. Why the heck should we leave this place that we knew to be good cover? Calmly my pal explained that on previous visits he had found plenty of game in the fields for which we had originally started.

I kept on arguing. Finally, in exasperation, my friend blew up—told me I could do as I damned well please—he was going where he knew there were birds. And down the road he marched! I looked at the novice. The novice looked at me. Poor devil! Maybe that's one reason why he gave up shooting. Well, I started the car, drove slowly down the road, and stopped as I came to the boy friend. Without a word he got in, saying nothing until we reached the fields for which he had originally set out.

Now it would make a great story if I told you that these fields were bare, and that we had to return to the woods. But actually, we had no sooner got started than we ran into birds—lots of 'em. After about an hour of fine sport, we paused at a fence to rest the dogs and have a smoke. Mind you, the air was still charged. For the novice was bewildered, my buddy was sore, and I was hurt. Suddenly my old shooting companion stuck out his hand, told me how ashamed he was, how sorry that he had spoken so sharply—and to a guest. Hell, I colored all up, told him gruffly to forget it, and gripped his damned old hand as if I were going to cripple him. Then I told him what an ass I had been, citing as conclusive proof the fine hunting we were having. Among shooting friends, he laughingly tells the story. And the idiot insists that it was his fault. He really believes it.

Now without posing as a martyr, and not liking to confess errors, yet I do insist on setting this thing down as I see it. Because from this and some other cases I'll mention, maybe beginners will get a tip or two that will save a friendship, insure a repeat invitation, provide more enjoyable hours in the field. And, for that matter, maybe some of the oldsters may be brought up sharp—as I was when I started thinking about it all.

In the first place, a couple of experienced and regular gunners know that when a third man enters their little partnership, even for one day, the whole picture changes. And that holds, even if the third party is a swell gent, as our novice certainly was. My pal realized that—and I didn't. Second, because he was new to all of it, the novice, even though he tried to please, was a drag on us. He slowed us up, took off the fine edge . . . . and thus, quite unintentionally, annoyed us. My buddy realized this too. And again, I didn't. Finally, and most importantly, I was a guest. It was not up to me to criticize, to suggest where to shoot. Common sense makes it plain that the host



By GEORGE PANCOAST MILLINGTON

should be the Captain, the leader. He knows the country, knows how to time the trip, where to go, what to do. And if I hadn't liked it, I should have kept quiet. So my host bawled me out. And I learned a lesson.

Now in contrast, take the case of a friend of mine. When he and I started last February on a three weeks trailer trip, he was just a good acquaintance. Today he is a friend. Why? Because from the minute we started, he went out of his way to learn about trailers—how to light the stove, make the beds, hang his clothes, store his tackle in the necessarily limited space. Since I owned the trailer, I was Captain. He'd ask about this, how he should do that, which way would I prefer the other. For he realized that from my experience, I knew a lot of the answers. But, bless you, I didn't know 'em all. For, in no time, in his quiet tactful way, he was introducing "projects and devices" for which I'm grateful, and which I'm still using. He'll probably read this; and I'll get a kick out of paying him this deserved tribute. That lad can trail with me any time he wants. And he knows it.

A while back I spoke of repeat invitations. In numerous Ducking Clubs where I have been a guest, I have observed that if a guide takes a shine to you, your chances for another visit are pretty good. I think that guides are like dogs and babies. If you want to make a hit with 'em, don't press your shots. Fellows who get second and third and fourth invitations are neither voluble nor patronizing. When they meet a guide for the first time, they just give to the guide and to the hosts who may be covertly observing, the impression that "I'm glad to meet you—am looking for some fun, and will try to fit in." Soon thereafter such fellows stow their luggage and arrange their guns and tackle where it doesn't interfere with that of the members. And then, at the first opportunity, they quietly and without undue show, find out from their guide what they can do to help. I've never yet seen a guide get sore at a guest who, after a cold and hard day, helped to gather stools.

Here are some good ways to lose friends and repel people at a Duck Club: Fail to see that the potatoes need peeling. Don't venture outdoors to fill the coal scuttle. Wait till the Coleman flickers out before doing anything. And even then, give the guide or one of your hosts plenty of chance. And, above all, following a bellyful of free drinks and good honest food, sit on your big fat fanny and let the others wash the dishes.

On the other hand, if you do want to make friends, you might quietly remind your host of what you can do, warn him of what you can't; and then urge that he freely call upon you for help. Watch the others. And when you see how things are done, without any fanfare, pitch right in with your share. It will probably be noted and appreciated. Remember that no two hunting outfits operate the same way. So, no matter how much experience you have, start in doing things their way. Later, over a friendly mug, likely you'll get a chance tactfully to tell your friend how they do it over at Spray Island. And even then you may learn that there's a good reason for doing it "our way."

That reminds me of another one. A couple of fellows went on a week-end trailer trip. The guest insisted on driving. And there's a bit of technique about handling a car with a trailer swinging behind. Well, he couldn't seem to get it. So, tactfully, the owner regained the wheel. Upon arrival, the host did most of the work, including the cooking. When the host would offer a friendly suggestion about what to do or how to do it, the guest either knew a better way or rebelled at the man with experience. And, returning, he jokingly told his friends that the trailer owner wanted everything done his way. And why not? The chances are that the trailerite knew in most cases exactly what was to be done—and why. Further, with his guest's showing none too great an inclination to pitch in, there was no kindly urge to explain in detail anyway.

Discussing this article with a friend, he agreed that there was a need for occasional reminders such as these. Then he went on to speak of a trip he had made. Seems his buddy had a most companionable dog among all two-footed animals. But put four feet under any living thing, and this dog would go for it. Now my friend has a docile dog, full of fire, but friendly to man and beast. Well all during that trip, both afield and in the cabin, everyone was astir to keep this big surly dog away from my friend's dog, as well as a couple of other fine dogs that were in camp. During this trip, the owner naturally got quite a bit of friendly razzing. And I understand that the severe beatings which he administered there and later, have finally had their effect. Otherwise, fine fellow that this chap is, he can't expect owners of good dogs to take chances on injury or possibly even death.

Maybe you think that every trip I've been on or heard about is filled with unpleasant experiences like these. Not on your tintype! Take the chap who told me of the tough dog. For several years now, he and I have made an annual trip—part business and part shooting. We're away about a week—two fine dogs on the back seat, guns, clothing, etc,—nicely stowed away. Now hunting dogs were never intended for hotel rooms. Yet before we reach our destination, we have to keep them in hotels, air them, feed 'em, and whatnot. Besides, we have to do enough business to justify the couple of days of shooting that we have at the end of the week. It's quite a job—tiresome, and a bit trying on the nerves. Yet in all the years I've been hunting with the lad, I've never heard him raise his voice in anger—we just literally have never had a cross word. There's never an argument. I'll suggest, as we're driving, that it's about time to give the dogs a run. Quietly he'll demur, feeling the traffic is a bit thick along there. OK—we drive for a spell to a side road, turn in, move along a few rods, and then stop for a leg stretch for all. Later he says he's getting hungry. I'm not. I ask if he can hold out a while longer. Certainly. And on we go for a bit until some attractive Inn whets my appetite, and makes him glad he waited. For hours we'll drive. First, the radio, then conversation, then business, (by the way, we're competitors), then a smoke, then those long unembarrassing silences which good friends know, enjoy—aye, welcome occasionally.

But enough. At last we complete our business calls. And then, fellow, we high-tail. For we have two important missions in Western Pennsylvania's beautiful mountains. One job must wait till morning. For not until then will we start out for grouse. The other pleasant job will be for us to grab the hand of just one of the grandest guys who ever wiped the eye of his shooting companions. He and his ancient father-in-law, with their own two hands, and mighty little help, have built them a cottage for his family to occupy in summer. But from the first of November, it becomes a shooting lodge. A half hour from town, on the bank of a beautiful and well stocked river, at the foot of the mountains—well, you go ahead and say it! Even though we insist that this party be Dutch, I have a suspicion that our host contributes plenty. At any rate, when we arrive, the fire's aroarin'—there's a cook in the kitchen (im-

(Continued on Page 31)



THE COTTONTAIL

By JOSEPH WHARTON LIPPINCOTT

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EDITOR'S NOTE: *This little chapter on animal lore is from a splendid new book on our wild folk entitled ANIMAL ENGINEERS OF THE COUNTRYSIDE by Joseph Wharton Lippincott, of Philadelphia. Another will appear in a future issue. Needless to say we are very grateful for the author's kind permission to reprint these intensely interesting and delightful entertaining stories.*

WHY is it that we see and learn so little of the wild creatures about us? We may know the Latin name of every flower in our garden and yet be nonplused when we try to name as common an animal as the little shrew. This might be quite all right were it not for the extra fascination of these throbbingly alive creatures, a fascination which we miss entirely if we know nothing about them.

The country, as a rule, is never quite level. The ground slopes, or is in ridges, hillocks and little valleys. In these are rocky places, sandy spots, damp or wet corners and often streams, springs and ponds. The level of the ground growths varies even more greatly. There will be low grass land, berry and bush patches, small trees and high trees. Each variation especially attracts certain kinds of wild creatures which find that particular type of land or vegetation best suited to their life needs. The duck and the water turtle, for instance, thrive where there is a pond. Nature, through the ages, has given them the necessary equipment for life in that particular environment. By instinct they take to it and stay with it. Man can lure or force them to other environment, but not as a rule very successfully. Some creatures, however, are much more adaptable than others.

I speak of the average country, not of the high mountains, or of the deserts and the swamps. Many people who live in the country either own land that shows all of these characteristics, or land which shows some of them and is near enough to the others to benefit by them so far as animal and bird visitors are concerned. I can promise that no country place with a tree and a garden is without both furry and feathered visitors and that, given the desire and leisure to watch for the goings and comings of the wild folk, no dweller in the country need miss a more or less thorough contact with them. Public zoos and museums show us some of the main wonders of the animal world, but they cannot give the thrill of the observation and study of wild life in connection with our own possessions. A rabbit in our own back yard is worth two zebras in the circus.

Wherever there is a sizable garden, a rabbit will appear as if by magic. Being a doubter all of my life I refused to believe this until Nature in her bounty presented me, through my garden, with a half dozen for good measure. They eat the pansies right down to the roots and clean up whole rows of some of the seedlings of other flowers; but there is something very interesting and attractive about a wild rabbit on the lawn or even in the garden. He is really like a hare and does not dig burrows and live in warrens as do the true rabbits of the English countryside; but, to escape dogs, he will take refuge in garden drains, woodpiles and woodchuck burrows, or even in hollow trees. By day he sits or rather crouches in his "form," a slight depression in the grass field, the flower garden or the shrubbery, where he is well hidden as long as he remains still and makes his brown back appear a part of the dry grass or earth.

Sometimes he will not stir until you are about to step on him, whereupon he leaps up suddenly and bounces away with surprising quickness. His hind legs are very powerful and his whole body built for speed. When rushing away he raises his short tail over his back and shows the white underside which has given him the nickname of cottontail.

A baby rabbit that is raised on the bottle will become very tame and stay in or around the house until nearly full grown, but eventually the call of the wild will lure him to the woods. He has so many enemies that his life is one long round of breathless escapes.

When deep snow falls and is very soft, the rabbit stays in his form or under some cover until the sun or the wind makes the surface sufficiently hard or packed to enable him to hop about without sinking into it; then, after nightfall, he goes forth to nibble the dry leaves or tall weed and flower stalks, or to cut buds and young bark from saplings. He is a great pruner in winter and a bad influence on the young fruit orchard.

A few large heaps of loose brush will give him protection and help him to live near the house all year. As a tenant of the garden he is so silent that you may never hear him make any sounds. However, he can talk to others of his kind in such gentle squeaks and whines that few but they can hear.

Every wild animal has its favorite paths, and Bre'r Rabbit is no exception. In the briar patch he keeps his runways always clear by biting off the growing shoots which might make obstructions; and while he seems rather scatterbrained, there is nothing haphazard in his mode of living; he knows every foot of his twenty-acre range and makes the best of it. In wet weather he crouches comfortably under the protection of his favorite brush pile or vine cluster or old log. In good, cool weather he seeks one of his snug forms in the open where he can enjoy the sun. He is such a good prognosticator in regard to weather that he can correctly size up the conditions at dawn and go to the kind of cover that will be best for the whole day. This is important, for, regardless of cold or dampness, it is against his principles to move again before night, except in spring and summer when thick, safe cover grows everywhere around him.

If he is found by a dog he knows enough to run down his nearest path to the briars and make sure that his big pursuer gets well scratched; but what saves his life in a real emergency is his knowledge of holes. No drainpipe or burrow, woodpile or old stone wall will escape his notice. He explores them and remembers. A persistent fox or keen-scented hound can tire out a rabbit in half an hour's chase, but up his sleeve the clever hopper carries as a last resort the knowledge of some near-by hole, just the right size for him, but too small for the enemy.

Warm days in early March encourage a bold spirit in even such a timid soul as his; he comes out of his winter retreats to bask in the sunlight, to search for the first blades of new grass, and to find mates.

The coming of the young ones is first indicated by a freshly dug hole in the earth, six or seven inches deep, which the mother rabbit begins in a tentative way on the sunny side of a flower bed or grass plot where there is straw or other material with which she

THE COTTONTAIL

an line the cold, earthy cavity and also hope o hide it. In the daytime she will sit somewhere near by, perhaps under a bush but lways well hidden, watching this spot. If t is undisturbed and does not gather rain water, t is here that her six or eight young will be orn. Perhaps she will dig three or four holes f this kind before she is satisfied that she as found the right location. The fact that oxes, skunks and other creatures whom she as very good reason to fear, are more active n and around the woodland, often makes her ome very close to the house for this important luty to her young.

Suddenly one day the roughly built little nest vill be found beautifully lined with bluish fur ulled from her breast and sides, like a double lanket of eiderdown which surrounds the umbled mass of newly born, hairless, blind little abbits. Over this blanket is pulled a covering of dried grass, straw or leaves, so cleverly atted down that it hides the nest very completely and acts as a roof to keep it dry. No ther animal can arrange a more perfect amouflage, which is a good thing for the abbit family, because no other animal appears o have a greater number of enemies and less rotective armament.

If a dog approaches the nest after nightfall, he mother, timid as she is, may suddenly ppear on the scene to distract the prowler's ttention to herself. Occasionally a rabbit will e found that is bold enough to put up something of a fight against any enemy that is o larger than a cat. Such a one will leap ver the cat's head with amazing swiftness nd, in the middle of the leap, kick at the urprised feline with her hind feet, which have trong and very sharp toenails. So sudden and vell timed is the attack that the cat is caught ompletely unawares. The mere fact that such n extremely timid and helpless creature as a abbit would dare to face her seems actually o embarrass Kitty who, under the circumstances, quickly sneaks away from the scene or fear that this humiliating feat will be epeated.

In about a week, though nursed by the mother nly at night and then only two or three times or the twenty-four hours, the tiny rabbits will ave grown considerably and put on a brown oat of fur. In two weeks they look just like ittle copies of the old rabbit and will be able o leave the nest; but some of them will stay here in luxury several days longer before venturing into the cold world for a livelier existence. When once away from the nest these ittle fellows spend the hours of daylight hiding very humbly wherever there is sufficient cover n the flower beds or shrubbery, but at night hey wander about, nibbling and tasting every green thing in sight as if delighted by the big world. Their mother by this time will already e preparing for her next litter, and then nother and perhaps later a fourth. Each, however, will have its own entirely new nest, nd thus avoid a useless congregation of fleas.

It is scarcely probable that all of a rabbit's nests will escape enemies; certainly in one way or another a large part of the young will be prevented from reaching maturity. Some will go to hawks, owls and crows; others to weasels, cats, 'possums, skunks, foxes and dogs; one or more may be eaten by snakes or by rats; some may be killed accidentally by automobiles, mowing machines and scythes; and then, last of all, comes the gunning season. It is a hard life!

The cottontail, however, is not awed or browbeaten by the terrors of his existence. He takes it all as a matter of course, never having known anything better. After he has escaped from a hard-running dog he relaxes, sits down and perhaps scratches a flea that has bothered him as much as his pursuer. Watch him from your window in the early morning mists before the sun drives him to his form. He cuts off a white clover leaf, sits up, looks all around, turns his trumpet-shaped ears this way and that, then leans down to secure more clover. His grand hind legs are always under him in position to send him away at top speed from scratch, and he is always on the lookout for possible danger; but he does not *expect* it or worry about it, therefore he stays plump and in good condition regardless of the unpleasant happenings.

Anyone drawing a picture of a cottontail thinks first of his ears and makes them much too large. Neither his ear nor his tail is as long as his useful hind foot.

One too often speaks of rabbits in a general way, as if they were all alike and had no individuality. This is wrong; they have strong individuality which, if one is to know them, must be recognized and studied. Children sometimes think that the only difference between rabbits is that at Easter one may lay yellow eggs while another lays purple ones! Or, following the teachings of the dailies, they may wonder why one rabbit "wears gum shoes in wet weather, carries an umbrella and always brushes its teeth at night, while a bad little rabbit does none of these things."

At my own home, there is the garden rabbit, the orchard rabbit, the cow pasture rabbit and the hen house rabbit, as well as their young progeny in various sizes. The four I have first named are not just rabbits, they are old-timers that have developed distinct characteristics; for instance, the hen house rabbit, given that name because one of his retreats is the hen house, is never found far from the hen yard. He eats grain that the chickens have left, and he loses his enemies by squeezing in and out of narrow openings in the wire fence. The geese and the chickens like him, and he has developed a certain fearlessness and dignity from his association with these pets of man.

Some years ago, when managing a pack of foot beagles for the amusement of friends, I had opportunity to study, day after day, most of the cottontails in the valley. Each one had its peculiarities. Some of these developed by chance. I remember one lazy old rabbit on a neighboring farm that was a pleasure to chase, because in his range there was no burrow so deep as to prevent our scaring him out of it; but one day he took refuge in one of the farm outbuildings, and from that time on, no matter how hard the "whips" ran to get there first and shut the door, never failed to utilize this sanctuary. Another rabbit when pursued by the pack, always took refuge in a hotbed as if well knowing by experience that the beagles would not be allowed near the glass.

The cottontail, though not exactly a lonely soul, plays a lone hand. One does not see him in flocks nor even in pairs. There is, however, a shy bond of sympathy between him and others of his kind. He likes to keep in touch with them, but in a guarded, distant manner. Very occasionally two youngsters will play, and when they do so, it is like a circus, a series of mighty leaps over and around each other in the most amazing way.

"To run like a rabbit" has become an epic expression denoting quickness prompted by fear, and it is for quickness rather than endurance that the cottontail should be famous. Let his western kin, the jackrabbit, have the laurels for hard running; but for quick hiding and dodging, the cottontail holds the record and, as already stated, he starts off with a leap which places him in high gear from the beginning A dog can catch him only by tiring him out or by a trick of some kind such as a leap upon him in his form before he has found out that he is discovered. In the same way, I have caught full-grown rabbits with a crab net and even with bare hands.

In the northern woods, where snow lies deep, his place is taken by the big-footed snowshoe hare which molts his brown fur in the autumn and grows white fur to take its place until spring once more brings brown colors into the woods. The cottontail can do none of this. And in the South the darker marsh rabbit, with slim legs and almost no white on its tail, usurps the wet places and swims from island to island as easily as a water rat.

The cottontail's top speed is somewhere around thirty-three miles per hour, if this can be judged from the pace set by one running from a dog along a road where I could gauge him with an automobile speedometer. If the dog had been larger, he might have run faster; but the old fellow looked as if he were humping along at about his best. A pronghorn antelope will travel around fifty-five miles per hour in its first burst of speed.

Very few cottontails would be caught by animals if they did not have a telltale scent which enables their natural enemies to find and follow them. This scent, too faint to be noticed by man, clings even to their footprints for several minutes. Strangely enough, a wonderful provision of Nature makes the mother lose much of it at the time when she is taking care of her young.

Those who believe that a cottontail cannot climb trees are partly wrong. Of course, a rabbit is not like a squirrel, but I have seen one make a twelve-foot leap from an upright tree which he climbed. The trunk was hollow and enabled him to run up it inside by bracing his back against the wood and then kicking and scrambling upwards with his feet. To escape his enemies the poor fellow is too often forced to try strange methods. He will even swim across streams, run into cellars and jump down wells. I would gladly teach him many better tricks if I knew them, but he is versatile as well as capable and, instead, is always teaching me.



BANG!

By WILLIAM S. GORDON

IT WOULD take a lot of fast and persuasive talking to convince at least two young Cambria county hunters that "everything happens for the best," after their sad experience on the very first day of the small game season last fall.

The season was hardly an hour old when I came upon them sitting dejectedly at the side of an old prop-road, their youthful faces the very picture of utter despair. Two empty single-barrel shotguns, both much the worse for wear, lay nearby as though to offer their sympathies in the tragic drama which very obviously had somehow, somewhere, just taken place.

"Well, fellows," I asked, as I drew nearer, "how are you finding things?" "Finding things," the older and, if such a thing could have been possible, sadder-looking of the two, replied: "Finding things! Mister, what just happened to us about ten minutes ago shouldn't even happen to a guy like Hitler ! !

"Last April me and my friend Tony here had a chance to pick up a peach of a looking dog from a fella for three bucks. He was just a pup then, but he sure looked good to us—with long ears and everything. Soon as we saw him we knew we wanted that dog like nobody's business and we began to figure out where we could get three bucks to pay for him. I didn't have a doggone cent—*anywhere*—and Tony here only had about seventy-five cents. But, like I say, we wanted that dog like nothin' else and I was thinkin' fast. Finally it came to me: I turned to the fella that owned him and said: 'Tell you what we'll do, Mister; Tony and I can't afford to pay cash for this dog but we want him bad and we'll make you a proposition. We got seventy-five cents with us and we'll give you that as interest if you'll sell him to us on payments. Instead of three bucks we'll give you three seventy-five; seventy-five cents down and thirty cents a week for the next ten weeks.'



"The fella scratched his head awhile and then he said he guessed that could be arranged somehow, provided he could keep the dog 'til it was at least half paid for—which, of course meant five weeks, any way you looked at it. We were hopin' to be able to take "Bones" home with us then and there, but we could see the other fella's side of the picture, too, so we took him up on his proposition.

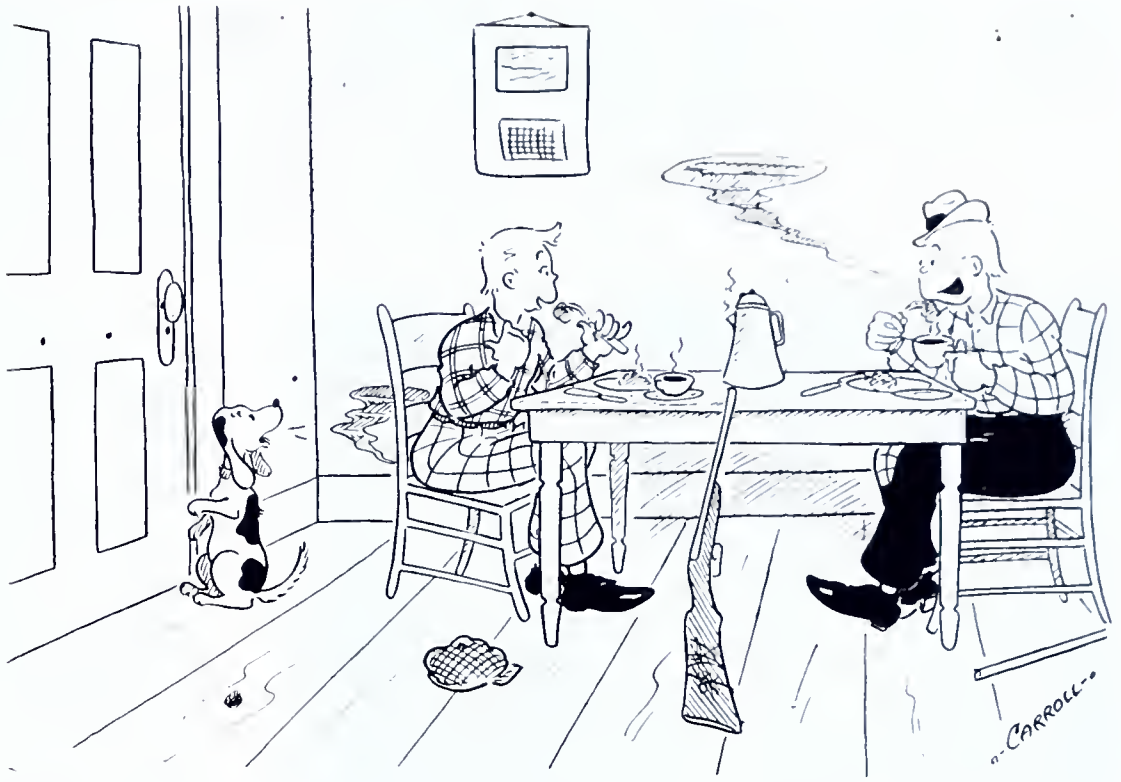
"Boy, oh boy, it was some job meeting those payments every week . . . . don't think it wasn't! I cut out smokin' and Tony here laid off shootin' pool and even then some weeks we had to borrow a dime or so somewhere to help make up the difference. Once we missed one whole week and the fella kept after us like we owned him a million bucks; said something about us not living up to our contract and how the law would let him keep the dog permanent, along with the money we already paid in, and warned us about slipping up on our payments again.

"Gee, those ten weeks went slow, especially the first five till we actually got the dog. Then, after that, we could hardly wait for training season to open. The fella told us that "Bones" was a peach of a rabbit dog and we sort of took his word for it, but you know how it is, we were anxious to find out for ourselves. We'd always wanted a real good dog . . . . I mean one that would bring the bunnies around right to you so you could stand up on a stump or something and bowl 'em right over as they came tearin' by. Fellas around town kept tellin' us that there was plenty more to a good rabbit dog than *looks* and they were always warning Tony and me not to expect too much from "Bones" till we got a chance to actually try him out, first hand. That made us more anxious than ever for the training season to open and it seemed like the twentieth of August would never come around.

"We were sort of disappointed with "Bones" the first couple of times we had him out; he seemed lazy or somethin' and didn't want to hunt. I guess it was on account of the heat, though, because after the first two or three times out he got to runnin' rabbits pretty fair. Not as good as some of the other dogs we used to hear hunters around town tellin' about, but pretty good at that, and we figured it was only a matter of time till "Bones" wouldn't have to take his hat off to any dog. Then we started looking forward to November and if you don't think it took some fancy diggin' and scrapin' to buy a hunting license you got another guess comin'! But you can see for yourself we finally got them, though . . . . sewed right there on the back of our coats, like they're supposed to be.

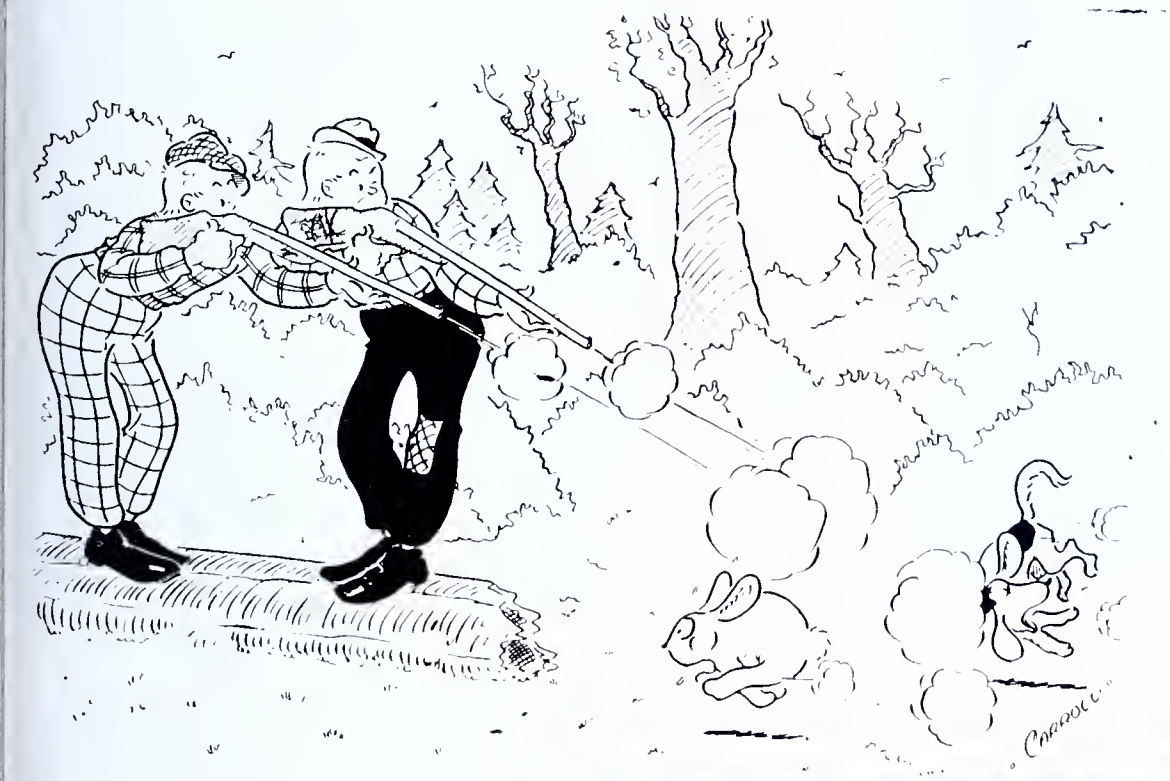
"Well, last night after we fed "Bones" and put him in the kitchen where it was nice and warm I said to Tony here, 'Tony, you be sure and be here at five bells tomorrow morning so's we can get an early start. I know the season don't open till nine but it's darned near four miles out to where we're going to hunt and you know we're no millionaires with a car; we gotta hoof every mile of the way so by the time we have our breakfast and give "Bones" something to eat, it won't be a bit too early!' Tony said he guessed that was about

BANG!!
- - - AND ANOTHER RED-BONE BITES THE DUST!!!



ight and, sure enough, he was at my house his morning long before daylight, just like ie said he would. We were both so excited ind anxious to get goin' that we could hardly eat a bite. And "Bones" was about as bad as is. He kept whimperin' around the kitchen and eapin' up on us like he was tryin' to tell us o get on our way.

"We got out here in the woods darned near an hour before the season opened. That new law about nine o'clock huntin' the first day is a good one and it gives the farmers a chance to get their work done so they can get out and have some fun too, but boy oh boy, that



one hour sure seemed like a week. We didn't have a watch with us, but finally we heard somebody shooting over on the ridge and then some other hunter fired a couple of shots in a strip of woods off to our left, so we figured it must be nine bells and we might as well untie "Bones" and let him get goin'.

"It might sound like I'm exaggeratin' but I bet he wasn't working those brush piles for three minutes till out scoots a rabbit travellin' for all he's worth with "Bones" right on his tail and tonguin' to beat the band. At first I thought the rabbit would sure hole up, chased so close as that, but nothing doin'. "Bones" took that baby clean out of hearing and never missed a yelp. Boy, what a chase!

"Finally, I hears him comin' back . . . . the deuce a-kickin. I calls to Tony here to get up on the hollow log I was standin' on and to keep still. "Bones" was bringin' that rabbit right back like I said he would . . . . just like we'd been training him to do all year. 'When he brings that bunny past here,' I says to Tony, 'we'll both get good open shootin' at him.'

"Sure enough, Tony hardly had time to get up on that old log alongside of me when that rabbit came tearin' head-on down this old prop-road, travellin' like a streak of greased lightning . . . . with "Bones" still hot on his trail, not twenty feet behind him.

"I ups with my gun and Tony here pulls up on his! Boy, quick as a flash it comes to me just what's goin' to happen, with "Bones" in so close and us so excited. And that's exactly what did!

"Well, anyhow, he died like a hero! And he didn't suffer any! We both got him comin' head-on and I don't believe he even knew what struck him, it happened so quick.

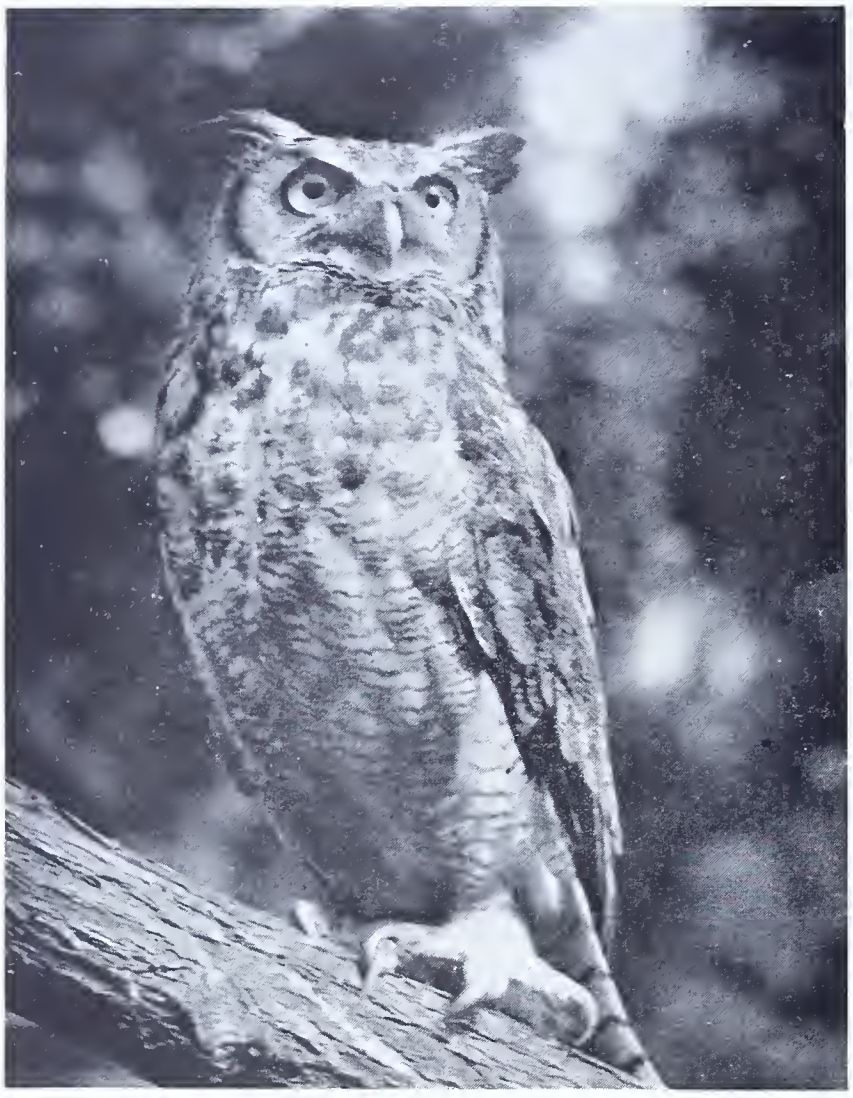
"No," Tony broke in pensively, "last thing good old "Bones" remembered before we sent him up to Dog-Heaven was the fun he was havin' chasin' Mr. Rabbit up this old road. Then he added slowly, "We're goin' to sit here awhile to sorta get things off our minds and then we're goin' to dig a grave right here in the woods and bury him. After that we'll head back towards town again and . . . . maybe shoot a game or two of pool. And, by the way Mister, if you ever run across anybody that wants to buy a good single-barrel tell him I've got one I'll sell him . . . . cheap ! ! "



THE FOOD HABITS of HAWKS and OWLS

A Progress Report on Studies of Pennsylvania Birds

By JOHN R. LANGENBACH



Great Horned Owl.

THE food habits of the winged predators have long been a problem to conservationists and bird lovers throughout the world. Numerous records of stomach contents of the different species have been compiled over a period of years, but because these specimens were obtained in limited numbers from many widely scattered points throughout the United States they do not give a true picture of the food habits of any particular species in any given unit of area during a particular period of time.

To be of practical value to the game manager, the food, as well as the feeding habits, of any species of predator must definitely and quantitatively be determined for given sets of conditions. He can then plan such control measures for that particular area as the findings may justify. He may know that a certain species of predators, whether bird or mammal, may be a decided menace in a given region, yet in another area under different ecological conditions that same species may be definitely beneficial to certain wildlife species which it is desirable to increase.

The Pennsylvania bounty system has offered an excellent opportunity to make food habits studies of the birds of prey because of the number killed under known conditions. With such an opportunity at hand, the Pennsylvania Game Commission in 1937 undertook a detailed series of predatory bird food habits investigations. This paper represents a progress report on the information gathered between November 1, 1937 and June 1, 1938.

Bounty is paid only on great horned owls and goshawks killed between November 1 and May 31, following. In order to receive payment the entire body of the specimen must be sent to the Harrisburg office of the Game Commission within 48 hours after death. These conditions have assured an ample supply of stomachs in good condition.

Through this means, 792 great horned owls and 156 goshawks were obtained for study purposes, while 349 additional specimens of various species were obtained through other channels. The 1,297 individuals available for study represented 18 different species. The number of each species obtained together with the stomach analysis data are listed in the table below.

Following the severe winter of 1935-36 the game populations of Pennsylvania had not recovered to anything approaching normalcy by the fall of 1937. Quail had made a remarkable increase but were still far less abundant than they were in the fall of 1935. Squirrels and cottontail rabbits showed an increase over 1936, but were far from plentiful. Ringneck pheasant conditions were slightly above normal. The ruffed grouse population had just begun to increase following the low of 1936-37. Wild turkeys were abundant. The winter season of 1937-38 was exceptionally mild and open, and undoubtedly had considerable affect on the food of predatory birds.

The nine general food classes listed in the table were broken down from the 42 specific food classes recorded in the actual stomach analysis. In this respect it is important to point out that in no case was an identification based on a surmise. *If the stomach contents could not be definitely identified as to species they were tallied in a more inclusive group.*

The table at first glance may appear somewhat complicated, but with a brief explanation of the composition of the nine general food classes, it should become readily understood.

Col. 1. Species—Lists by species the specimens received for study purposes.

Col. 2. Total Number Received—Represents the total number of specimens received between November 1, 1937 and May 31, 1938. Although not every specimen obtained could be used for stomach analysis work, some valuable information was gathered on the bird.

Col. 3. Stomachs Containing Food—Represents the total number of stomachs found to contain food in greater or lesser amounts. These amounts varied from three hairs up to five ounces of solid matter. The percentage figure represents the percentage which the stomachs containing food were of the total number of birds secured. For example: 59.6% of all the great horned owl specimens received, contained food in the stomach.

Col. 4. Total Number of Food Samples Recorded—Represents the total number of food samples found in the stomachs. This figure is larger than the number of stomachs containing food because some stomachs were found to hold more than one food class. For example: One owl contained parts of rabbit, mouse and shrew. In cases where a single stomach contained two or more samples of one food type definitely known to represent several prey it was recorded only once. If one specimen contained rabbit, two mice and three shrews, this was recorded as rabbit once, mouse once, and shrew once.

Col. 5. Rabbits—Includes cottontail rabbits and varying, or snowshoe, hares. However, only three varying hares were recorded and all were found in the great horned owl. The percentage column indicates the percentage of all food samples recorded that was rabbit. For example: 40.6% of the diet of the great horned owls was rabbit. To carry it further, of the 551 food samples recorded, 224, or 40.6%, were rabbit in the great horned owls.

Col. 6. Mice and Rats—Represents the following genera of mice, Microtus, Peromyscus, Mus and Zapus, as well as mice in which the genus was not determined, and the brown rat. The numbers and percentages are figured by the same method as used in Column 5.

Col. 7. Shrews and Moles—Includes the shrews and moles found in the stomach contents of the various birds. These mammals were in general only identified to family, but in a few cases it was possible to run down to the species, especially the short-tailed shrew.

Col. 8. Squirrels—Represents the red, gray, flying and fox squirrel.

Col. 9. Other Mammals—Represents all mammals that do not fit in the first four food class columns. It includes chipmunks, bats,

The Food Habits of Hawks and Owls

skunks, muskrats, weasels and mammalian parts that could not accurately be identified principally due to an advanced stage of decomposition.

Col. 10. Poultry—Represents domestic chicken with the exception of one turkey which was not definitely identified as either wild or domestic. This turkey was found in a great horned owl killed in good wild turkey country.

Col. 11. Game Birds—Includes ringneck pheasants, ruffed grouse, bobwhite quail and Hungarian partridge.

Col. 12. Other Birds—Represents all other birds that were recorded in the stomach analysis, including passerine birds, screech owl, long-eared owl, sparrow hawk, red-shouldered hawk, crow, flicker and bird parts that could not accurately be identified.

Col. 13. Miscellaneous—Represents all food samples not grouped in any of the above food classes, and includes insects, snakes, fish, crayfish, amphibians, snails, vegetation and a few pieces of material which could not be identified.

In the table it is interesting to compare the food habits of the "protected" birds with those not "protected" by law. The "unprotected" individuals represented in this report are the great horned owl, the goshawk, the Cooper's hawk, the sharp-shinned hawk and the snowy owl. The reader will note how the food habits of these birds show high percentages of those food classes which are normally considered desirable to man, while those of other species show the opposite.

In order to point out the differences in the food habits, consideration must be centered on food classes in which several species of both groups are represented. For example:

Column 5. Rabbits, shows that the great horned owl and the goshawk are the two birds with any considerable amount of rabbit in their diet, 40.6% and 15.4% respectively.

In Column 11. Game Birds, the goshawk and the Cooper's hawk are outstanding with 11.1% and 10.4%, respectively.

Column 6. Mice and Rats, shows the percentage of the diet of the great horned owl and the long-eared owl to be 18.2% and 65.5%, respectively. Comparing the goshawk to the red-tailed hawk, the percentages are 4.1% and 43.8%, respectively.

In Column 12. Other Birds, a striking comparison is noted between the sharp-shinned hawk and the red-tailed hawk, where the percentages are 100.0% and 4.9%, respectively.

It should be pointed out that the food habits studies so far, in the main, substantiate the Commission's previous understanding with regard to the food habits of certain hawks and owls included on the "protected" list, although during this special study there have not been enough specimens of said species received to justify any definite conclusions.

According to the figures compiled thus far for the great horned owl, goshawk, Cooper's hawk and sharp-shinned hawk, these birds are definitely undesirable from a game or song-bird standpoint. Likewise, the hawks and owls that are "protected" by law show no, or very low numbers of, game or song-birds in their diet. The red-tailed hawk, red-shouldered hawk and marsh hawk, which have long been on the border line in the minds of many people, definitely show beneficial characteristics in the few samples examined. Probably the availability of larger numbers of these species for study later will change the picture, especially in certain restricted localities.

The citations from the table should arouse the reader's interest enough to have him carefully compare the percentage figures in the table. It must be remembered that *it is the percentage figures that are significant,* because of the great variety in the number of stomachs received. Due to the lack of a sufficient number of samples for each different species, all of the figures should not be considered conclusive. This is especially true where the number of stomachs containing food is less than 100.

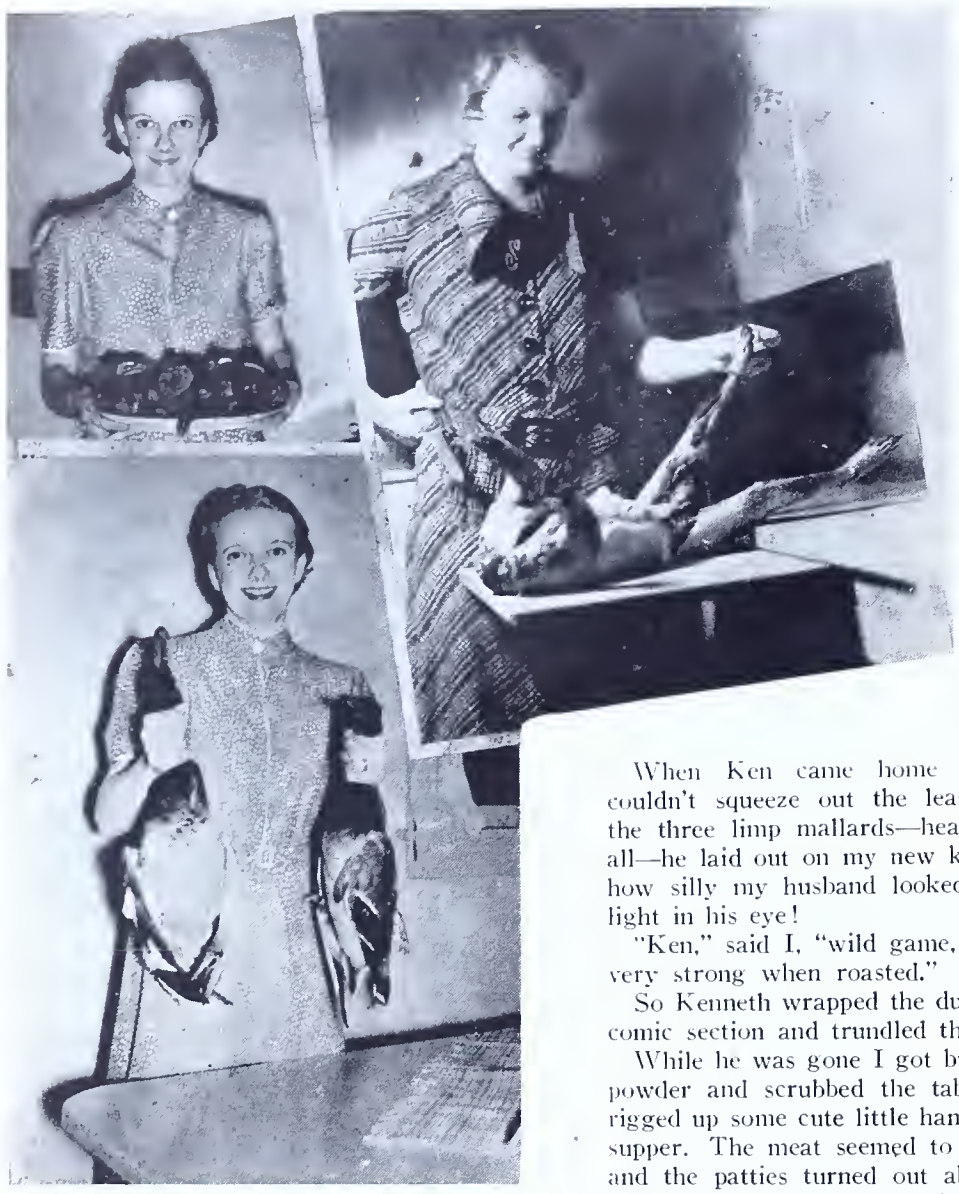
In closing, it must be pointed out that this is merely a progress report, because with studies covering only one mild winter, it would not be fair to form any definite conclusions. What differences a more severe winter will show in the food habits is yet to be determined.

It is obvious that these investigations must be continued for at least one more year, and that if at all possible a considerable number of specimens should be collected *during the summer and early fall months.* This information, added to extensive field observations by trained observers, should enable the Game Commission to reach quite definite conclusions relative to the desirability or destructiveness of the several species enumerated.

The Pennsylvania Game Commission, desiring more conclusive and additional information, has continued the bounty on the great horned owl and the goshawk as it was during 1937-38.

The writer wishes to acknowledge the assistance of Robert D. McDowell of the Game Commission. His knowledge of comparative anatomy was a decided factor in the identification of the stomach contents. The writer also wishes to acknowledge the assistance of Harold L. Plasterer of the Game Commission for his help in the quick identification of the various species of hawks and owls, especially in cases of immature birds.

1	2	3		4	5		6		7		8		9		10		11		12		13	
Species	*Tot. No. Rec'd.* No.	*Stom. Cont'g. Food* No.	%	*Tot. No. Food Samples Rec'd.* No.	*Rabbits* No.	%	*Mice and Rats* No.	%	*Shrews and Moles* No.	%	*Squirrels* No.	%	*Other Mammals* No.	%	*Poultry* No.	%	*Game Birds* No.	%	*Other Birds* No.	%	*Miscellaneous* No.	%
t Horned Owl .	792	472	59.6	551	224	40.6	100	18.2	11	2.0	26	4.7	17	3.1	32	5.8	11	2.0	72	13.1	58	10.
awk	156	71	45.5	72	11	15.4	3	4.1	1	1.4	16	22.2	4	5.5	17	23.6	8	11.1	10	13.9	2	2.
er's Hawk	99	45	45.5	48	...	...	3	6.3	...	...	9	18.7	1	2.1	9	18.7	5	10.4	19	39.6	2	4.
tailed Hawk ...	52	29	55.8	41	...	...	18	43.8	9	21.9	1	2.5	1	2.5	3	7.3	2	4.9	2	4.9	5	12.
shouldered Hawk	52	29	55.8	45	...	...	11	24.4	5	11.1	...	...	1	2.2	...	...	1	2.2	4	8.9	23	51.
g-eared Owl	35	24	68.6	32	...	...	21	65.5	4	12.5	...	...	...	...	...	...	...	.	1	3.1	6	18.
ed Owl	31	19	61.2	27	1	3.7	7	26.0	5	18.5	...	...	4	14.8	...	...	1	3.7	5	18.5	4	14.
sh Hawk	17	12	71.6	14	...	...	7	50.0	...	...	2	14.3	...	...	...	...	...	...	5	35.7	.	
ech Owl	17	11	64.7	12	...	...	1	8.3	3	25.0	...	...	1	8.3	...	...	..	...	1	8.3	6	50.
ad-winged Hawk	14	9	64.4	14	...	...	2	14.3	3	21.4	...	...	1	7.2	...	...	...	...	.	.	8	57.
rp-shinned Hawk	14	8	57.1	8	...	...	...	...	...	...	...	...	...	..	...	...	...	...	8	100.0	.	...
rrow Hawk	5	4	80.0	6	...	...	1	16.7	1	16.7	...	...	...	...	...	...	..	...	..	..	4	66.
gh-legged Hawk	5	2	40.0	3	...	...	2	66.7	...	...	.	...	...	...	...	...	...	...	.	.	1	33.
a Owl	3	3	100.0	4	...	...	3	75.0	1	25.0	...	...	...	...	...	..	...	...	.	.	.	...
rt-eared Owl	2	1	50.0	1	...	...	...	...	...	...	...	...	..	...	...	...	...	..	..	...	1	100.
k Hawk	1	1	100.0	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	100.0	.	...
rey	1	1	100.0	1	...	...	...	...	...	...	...	...	...	.	...	...	...		.	.	1	100.
wy Owl	1	...	....	...	...	...	...	...	...	...	..	.	..	..	..							...
TOTAL	1,297	741	....	880	236	...	179	...	43	...	54		30		61		28		128		121	...



PITY THE HUNTER'S WIFE

By RENA HAWLEY SMITH

From "National Sportsman"

TEN MILLION sportsmen, so I've read, tramp the woods and byways of this fair land of ours, leaving behind them, I should guess, approximately ten million wives. There is glamor of big fish finally landed; of ducks brought down by keen-eyed marksmanship . . . . but once the sun has set on a game-laden car turned homeward, the stories end. This, I maintain, paints but half the picture. Do men suppose ten million wives wait open-armed, just tickled to death to see a stringy little rabbit dragged in by the heels?

I'll admit they can learn to like it, but it takes some education.

For my part, I discovered soon after my marriage just what my husband meant by "bringing home the bacon." Naturally, I am fond of bacon, but what my husband brought home had feathers growing on it! Or fur, or slimy scales.

The very first night we spent in our little white house with the new green blinds (or so it seemed—it might possibly have been the first week-end) the light of my life was up with the crows, somewhere around 5 a. m. It was winter, and pitch dark in our room. I heard him stumble over a chair, so I leaned over and pressed a switch. There, in the sudden flood of light, stood my husband, wearing the expression of a startled buck, one foot in his hunting trousers, the rest of him snugly encased in a suit of long-legged woolen underwear inherited from his grandfather. Thus early in married life did I learn the most intimate details of a duck hunter's wardrobe.

When Ken came home that afternoon I couldn't squeeze out the least enthusiasm for the three limp mallards—heads, tails, feet and all—he laid out on my new kitchen table. And how silly my husband looked with that proud light in his eye!

"Ken," said I, "wild game, I've heard, tastes very strong when roasted."

So Kenneth wrapped the ducks in a discarded comic section and trundled them over to Bill's.

While he was gone I got busy with cleansing powder and scrubbed the table, after which I rigged up some cute little hamburger patties for supper. The meat seemed to shrink in cooking and the patties turned out about half the size I'd intended, but I planted a fancy sprig of parsley in this one and that one, and I thought they looked quite fetching. The lord and master, however, was unappreciative. Aside from asking if I'd forgotten the salt, he refrained from comment.

The next Saturday afternoon he and his cronies went tramping through the snow, guns in hand, and when the spoils of the chase were divided, we received a pair of big-eyed rabbits. Why, at that time I'd as soon have fried our cat as one of those soft furry creatures! I have a second cousin, though, who as a boy learned to eat rabbit. We sent him a gift on Monday.

But when Kenneth sauntered home one day with half a dozen pigeons in his bag, I changed color.

"Pigeons," I stormed, "aren't fit to eat!"

"Mother always made swell pot-pie out of pigeons."

"I won't cook them!"

"All right; don't."

He swept up his game and stamped down to the basement. An hour later I heard him leave in the car, and I knew he was taking the birds, carefully dressed, home to his mother.

And so it went with us all that first year of so-called wedded bliss. There seemed to be no end to the ducks, squirrels, rabbits, pheasants, doves and quail my lifemate garnered in. And as the weather grew warmer, the fish—! What, I ask, could be less alluring than a dead fish's glassy eye staring up at one from the depths of a foul-smelling creel? It was fortunate, I thought, that friends and relatives hovered round with empty baskets!

Only Kenneth seemed to mourn. It got so we couldn't go to a movie without someone coming up and slapping him on the back, extolling at great length the flavor of a bird or beast recently browned in *his* wife's oven. Ken would sigh and roll great sad eyes in my direction. I considered it ungallant of him.

But, by and by, as months passed, the paint on our little white house began to scale, and our budget collapsed. Macaroni and cheese, without any bacon, frequented our table more and more in direct proportion to our declining income.

I have never been a martyr and never expect to be one, but I did get tired of macaroni. I hauled down my flag, and surrendered unconditionally. I promised to cook what my man brought home.

I began on a fish. It stuck to the pan and I lost my temper, but Kenneth appeared greatly pleased with my efforts and fussed over me all evening. Not until a week later when the postman delivered an unsolicited pamphlet entitled *Fifty Ways to Cook Fish* did I doubt his sincerity.

Of course, I forgave him. After all, he's pretty good to live with, and besides, I never dreamed full-color photographs of baked fish could be so attractive. I started right in to mend my methods, and believe it or not, I was soon serving fish for company dinners—not just little get-together suppers, but real important company dinners; the kind you lie awake nights thinking about.

One thing naturally leads to another, and it stood to reason if I could make a fish palatable, I ought to do as well by a rabbit or quail. I did. In fact, progressing slowly by the trial and error method, I attained a degree of skill most flattering to my ego. I even learned to like the meat and continued to serve it after our house was all slicked up in a new coat of paint.

But, just as I thought I had conquered this wild meat bugaboo, a new problem popped up to try my culinary patience.

It happened the evening we answered our doorbell to discover Fritz, one of the hunting fraternity, standing on our doorstep with a large brown pasteboard box under one arm. He wore a big grin, and, upon being invited in, set his parcel tenderly in the exact center of my living room rug. I was suspicious from the start.

(Continued on Page 32)











HOW NOT TO HUNT





CURRENT TOPICS

PENNSYLVANIA GAME COMMISSION OFFICIAL 1938 OPEN SEASONS AND BAG LIMITS FOR GAME AND FUR-BEARING ANIMALS

Below is a summary of the open seasons and bag limits established by resolution of the Pennsylvania Game Commission, under date of July 13, 1938, in accordance with the provisions of Sections 501 and 601 of the Act of Assembly, approved June 3, 1937, P. L. 1225. Open season includes both dates given, Sundays excepted for game. The shooting hours daily are 7 A. M. to 5 P. M. *On October 31 no hunting of any kind (including native and migratory game) before 9 A. M.,* which also is the opening hour on the first day of the seasons for trapping fur-bearing animals and racoons in open counties. Racoons may be hunted at night. The daily racoon limit covers animals taken noon to noon.

UPLAND GAME (*Small Game Possession Limit 2 Days' Bag*)	Bag Limits Day	Season	OPEN SEASONS
Ruffed Grouse	2	6	Oct. 31-Nov. 12
Bobwhite Quail, Gambel Quail, Valley Quail, (Combined kinds)	4	12	Oct. 31-Nov. 12
Hares, (Snowshoe or varying)	2	8	Oct. 31-Nov. 12
Wild Turkey (See counties closed listed below) *	1	1	Oct. 31-Nov. 26
Ringneck Pheasants, males only	2	10	Oct. 31-Nov. 26
Blackbirds		Unlimited	Oct. 31-Nov. 26
Rabbits, Cottontail	4	20	Oct. 31-Nov. 26
Squirrels, Gray, Black and Fox, (Combined kinds)	6	20	Oct. 31-Nov. 26
Squirrels, Red		Unlimited	Oct. 31-Aug. 15, 1939
Woodchucks, (Commonly called Groundhogs)	4	Unlimited	Oct. 31-Sept. 15, 1939
Raccoons, all counties by individual or hunting party	2	10	Oct. 31-Dec. 31
Raccoons, by trapping, except in counties listed below **	..	10	Dec. 1-Jan. 31, 1939
Bear, over one year old by individual (See below) ***	1	1	Nov. 14-Nov. 19
Bear, over one year old by hunting party of five or more ***	2	2	Nov. 14-Nov. 19
Deer, Antlerless, in all counties, without special permits	1	1	Nov. 28-Dec. 3
Deer, Antlerless, by hunting party of six or more	6	6	Nov. 28-Dec. 3

No open season—Reeves Pheasants, Hungarian and Chukar Partridges, Doves, Antlered Male Deer, Elk and Cub Bears.

FUR-BEARERS (Traps not to be staked out or set before 9 A. M. the first dates)			
Minks, Opossums, Skunks		Unlimited	Nov. 15-Jan. 31, 1939
Muskrats, (By trapping only)		Unlimited	Dec. 1-Jan. 31, 1939
Otters, (Traps only, in 4 counties) ****	..	3	Nov. 15-Jan 31, 1939
Beavers (Traps only, in 8 counties) *****	..	3	Feb. 15-Feb. 28, 1939

MIGRATORY GAME			
Rails and Gallinules (Except Sora & Coot)		15 of combined kinds	Sept. 1-Nov. 30
Sora	15		Sept. 1-Nov. 30
Woodcock	4		Oct. 1-Oct. 31
Wild Ducks (Except Wood Ducks) †	10†		Oct. 15-Nov. 28
Wild Geese †		5 of combined kinds †	Oct. 15-Nov. 28
Snipe, Wilson's (Jacksnipe)	15		Oct. 15-Nov. 28
Coots, (Mudhens)	25		Oct. 15-Nov. 28

* No open season on Wild Turkeys during 1938 in Cameron, Clarion, Clearfield, Elk, Forest, McKean, Potter, Venango and Warren Counties.

** No Raccoon trapping in Allegheny, Armstrong, Beaver, Butler, Cambria, Fayette, Greene, Indiana, Lawrence, Mercer, Somerset, Washington and Westmoreland Counties.

*** No Bear season in Bedford and Blair Counties.

**** Otter trapping in Monroe, Pike, Susquehanna and Wayne Counties only.

***** Beaver trapping in Centre, Clearfield, Jefferson, Luzerne, Monroe, Pike, Susquehanna and Wayne Counties only.

† Possession Limits, Ducks, 10 a day, not more than 3 of which may be canvasbacks, Redheads, Buffleheads or Ruddy ducks or an aggregate of three birds of such species; and no person at any one time may possess more than 20 of all kinds, of which not more than 6 of any single species, or 6 in the aggregate, may be of the restricted species above mentioned.

Geese, 5 of combined kinds a day; and no person at any one time may possess more than 10 of combined kinds.

All other migratory game birds, possession limit one day's bag.

SHOOTING HOURS FOR MIGRATORY BIRDS:

Rails and Gallinules—7 A. M. to 5 P. M., except in tidal marsh areas 7 A. M., to sunset; Woodcock and Snipe—7 A. M. to 5 P. M.; Ducks, Geese, and Coots—7 A. M. to 4 P. M.

EXCEPTION—*No Hunting of any kind before 9 A. M. October 31st.*

RECIPROCAL HUNTING RIGHTS ON PYMATUNING LAKE

The States of Ohio and Pennsylvania have passed the required legislation to grant reciprocal hunting rights to licensed hunters of either State on certain waters of the Pymatuning Reservoir. The portion of the Lake to which these hunting rights apply in both Pennsylvania and Ohio is that part bounded on the south by an east and west line crossing the State boundary five-tenths of a mile north of Simons, Ohio, and on the north by a line drawn between the point at which Padanaram Road crosses the State boundary and a point formerly known as the Polleck Bridge.

The significance of this agreement is that any person holding a Pennsylvania resident hunter's license may hunt migratory birds in season *on any of the waters* of the Lake between the north and south boundaries above mentioned, in both States, except of course such portions of the Lake as may be set aside as Game Refuges, which are plainly marked.

No permanent blinds may be erected anywhere on the Lake or the shores thereof.

A Pennsylvania hunter who goes upon the Ohio portion of the Lake may not land upon the Ohio shores unless he has an Ohio hunter's license. Likewise, an Ohio licensed hunter may not land or hunt from any of the shores of that portion of the Lake in Pennsylvania unless he is in possession of a Pennsylvania nonresident hunter's license. The Ohio hunter may, however, hunt on all portions of the Lake within the boundaries previously stated, in Pennsylvania, on an Ohio license if he does not land on the Pennsylvania shores.

Michigan conservation officials recently pondered the advisability of permitting destructive deer to be killed out of season. Sportsmen from all parts of the state, especially in the northeastern sections of the lower peninsula, have protested strongly to the Commission's policy of issuing permits to farmers whose crops were damaged. About 30 deer were killed during the summer out of the estimated 750,000 to 1,000,000 in Michigan, but the sportsmen assert that is an "unnecessary slaughter."

The Bald or American Eagle has continued to increase in northwestern Pennsylvania as a result of the establishment of the Pymatuning Waterfowl Refuge in Crawford County by the Game Commission three years ago. In a report recently submitted the Refuge Keeper says that he has seen as many as 28 bald eagles on the area at one time.

It is also gratifying to note, that the American egret, once virtually exterminated as a result of the millinery trade, but rigidly protected by law during the past ten years, is also abundant on the refuge. Burt Oudette, the Refuge Keeper, reports having counted as many as 57 of these beautiful white herons on their roost at one time.

CURRENT TOPICS

TAXIDERMY EXAMINATIONS MERIT CONFIDENCE

For a number of years prior to 1937 there was a growing feeling among sportsmen that the art of taxidermy should be so regulated that some measure of assurance could be given to sportsmen that all persons licensed by the Pennsylvania Game Commission to practice taxidermy for profit would be qualified to do first-class work, thus reducing to the minimum the number of valuable trophies spoiled in the hands of inefficient taxidermists.

To correct the weak points in the former system of issuing taxidermy permits so that the interests of the sportsmen may be safeguarded, the Pennsylvania Game Commission lost no time in availing itself of the provisions of the amended Game Law of 1937 and passed a resolution providing for the establishment of a system of examinations to determine the qualifications of applicants for Taxidermy Permits.

The first examination was conducted by the newly appointed Taxidermy Examining Board, composed of Reinhold L. Fricke, Preparator, Section of Education, Carnegie Museum, Pittsburgh; Harold T. Green, Curator of Museum Exhibits, The Academy of Natural Sciences, Philadelphia; and M. J. Kelly, Curator, Everhart Museum, Scranton, at Harrisburg, October 21, 1937, there being eleven (11) applicants participating, of which number all passed with a satisfactory rating with the exception of one.

The new system met with such a measure of success that the second examination was conducted by the same efficient examining board at Harrisburg, on September 27, 1938, there being twelve (12) applicants participating, all attaining a satisfactory rating with the exception of two. The names and addresses of the successful applicants follow:

January Avolia, Washington; H. W. Cloutman, Springdale; Fred C. Diederich, Fayette City; Lambert F. Flack, Chambersburg; Linwood T. Ford, Jr., Philadelphia; Russell C. Glose, Allentown; Mrs. George J. Gumbetter, Warren; Robert Higgins, Nanticoke; Peter J. Krenitsky, Mayfield; and Edward Proft, Sharpsburg.

The system of examinations also provides for testing the ability of licensed taxidermists whose workmanship or methods of doing business may be questioned. In other words, *if the Commission receives two or more legitimate written complaints* concerning the quality of work done by taxidermists during the twelve months preceding May 31, 1939, such taxidermists will not be granted a renewal permit until they have demonstrated their fitness in a taxidermy examination and established satisfactory qualifications to continue the practice of taxidermy for profit.

The new system works no hardships on the bonafide, efficient taxidermist, but on the other hand it will eliminate those taxidermists who are not capable to do first-class work.

If any readers of the GAME NEWS know of taxidermists who are not doing satisfactory work, they can render their fellow sportsmen and the Commission a real service by advising the Commission, giving specific information. Such information, in keeping with the Commission's established policy, will be treated confidential.

DEER KILLED TO PROTECT PROPERTY

January 1 to September 30, 1938

County	*Male*	*Female*	*Adult*	*Young*	*Retained For Food*	*Hosp. Etc.*	*Unused*	*Total*
Adams ..... (None) ..	..	..	..	..	..	..	..	..
Allegheny .. (None) ..	..	..	..	..	..	..	..	..
Armstrong .. (None) ..	..	..	..	..	..	..	..	..
Beaver ..... (None) ..	..	..	..	..	..	..	..	..
Bedford	3	21	22	2	17	6	1	24
Berks ..... (None) ..	..	..	..	..	..	..	..	..
Blair	3	4	5	2	7	..	..	7
Bradford	7	14	17	4	20	..	1	21
Bucks ..... (None) ..	..	..	..	..	..	..	..	..
Butler	1	..	..	1	1	..	..	1
Cambria ... (None) ..	..	..	..	..	..	..	..	..
Cameron	26	49	34	41	68	6	1	75
Carbon	9	12	11	10	17	4	..	21
Centre	6	23	27	2	29	..	..	29
Chester ..... (None) ..	..	..	..	..	..	..	..	..
Clarion	27	27	43	11	38	8	8	54
Clearfield	35	33	47	21	64½	2½	1	68
Clinton	53	50	54	49	98	3	2	103
Columbia	12	14	17	9	26	..	..	26
Crawford	1	..	..	1	1	..	..	1
Cumberland	1	2	2	1	2	..	1	3
Dauphin	1	1	1	1	2	..	..	2
Delaware .. (None) ..	..	..	..	..	..	..	..	..
Elk	33	47	56	24	75	5	..	80
Erie ..... (None) ..	..	..	..	..	..	..	..	..
Fayette	2	2	3	1	4	..	..	4
Forest	51	55	81	25	91	7	8	106
Franklin	2	1	3	..	3	..	..	3
Fulton	4	3	5	2	7	..	..	7
Greene ..... (None) ..	..	..	..	..	..	..	..	..
Huntingdon	..	1	..	1	1	..	..	1
Indiana	3	3	4	2	4	1	1	6
Jefferson	23	33	42	14	52	2	2	56
Juniata	3	2	4	1	4	..	1	5
Lackawanna	3	3	2	4	2	2	2	6
Lancaster ... (None) ..	..	..	..	..	..	..	..	..
Lawrence ... (None) ..	..	..	..	..	..	..	..	..
Lebanon .... (None) ..	..	..	..	..	..	..	..	..
Lehigh ..... (None) ..	..	..	..	..	..	..	..	..
Luzerne	2	1	3	..	1	2	..	3
Lycoming	47	99	118	28	136	5	5	146
McKean	62	86	118	30	137½	10½	..	148
Mercer ..... (None) ..	..	..	..	..	..	..	..	..
Mifflin	7	15	15	7	20	2	..	22
Monroe	4	20	15	9	17	7	..	24
Montgomery (None) ..	..	..	..	..	..	..	..	..
Montour ... (None) ..	..	..	..	..	..	..	..	..
Northampton (None) ..	..	..	..	..	..	..	..	..
Northumberland	..	3	2	1	3	..	..	3
Perry	1	4	3	2	5	..	..	5
Philadelphia (None) ..	..	..	..	..	..	..	..	..
Pike	3	9	11	1	11	1	..	12
Potter	173	279	436	16	423	24	5	452
Schuylkill	8	19	20	7	22	2	3	27
Snyder	1	1	2	..	2	..	..	2
Somerset	22	48	43	27	62	7	1	70
Sullivan	77	112	124	65	166	21	2	189
Susquehanna (None) ..	..	..	..	..	..	..	..	..
Tioga	72	122	149	45	155	37	2	194
Union	2	8	10	..	10	..	..	10
Venango	41	55	60	36	75	8	13	96
Warren	20	25	38	7	44	..	1	45
Washington .. (None) ..	..	..	..	..	..	..	..	..
Wayne	11	12	13	10	20	3	..	23
Westmoreland	..	1	1	..	1	..	..	1
Wyoming	3	11	8	6	14	..	..	14
York ..... (None) ..	..	..	..	..	..	..	..	..
TOTALS	865	1330	1669	526	1958	176	61	2195

COOPERATIVE FARM-GAME PROJECTS FOR THE 1938 HUNTING SEASON

When the sportsman inquires where hunting may be found without trespassing on posted territory, he will learn since the close of last hunting season that Cooperative Farm-Game Projects have increased in both number and size. This increase has been to such a marked extent that he will feel the Program, although still in its infancy and experimental stage, must be meeting with the approval of both the farmers and sportsmen.

During the past year, the total leased area has doubled that acquired previously to November 1, 1937. Twenty-two additional projects have been established and will be operating in eighteen of the twenty-one counties in which the Cooperative Farm-Game Program is now applicable. New agreements are coming in constantly, and these are being added to their respective project as the opportunity permits. Before the close of the present hunting season, the leased area will approximate 75,000 acres of farmland.

A most gratifying feature in this year's acquisition of leased farms is that farmers living adjacent to Cooperative Farm-Game Projects which were in operation during previous hunting seasons requested that they might lease the hunting privileges on their lands to the Game Commission. This increase occurred in twelve of the earlier projects and undoubtedly proves that the original cooperators were satisfied with the operation of the projects and the cooperation they received from the sportsmen, and must have recommended it to their neighbors.

With a larger amount of leased territory, the volume of hunters will increase and chances for an increase in the number of violations will occur. It is hoped the hunter will bear in mind that even though he has increased hunting privileges, the farm is still private property and that he will extend as courteous treatment to the farmer as he would demand of someone when entering his own home.

The continued success and expansion of this movement now rests largely in the hands of the sportsmen.

You are favored this season with the following areas open on the Cooperative Plan:

COOPERATIVE FARM-GAME PROJECTS

County	*Township*	*Project Number*	*No. of Agreements*	Leased Acreage *Closed to Hunting*	*Open to Hunting*	*Total Area*
Allegheny	Collier	50	16	272.0	622.0	894.0
Allegheny	Moon-Robinson	29	10	360.0	644.0	1,004.0
Armstrong	Gilpin	51	14	*	*	1,198.0
Armstrong	Kiskiminetas	41	6	87.0	509.0	596.0
Armstrong	Kiskiminetas	36	24	811.0	2,125.0	2,936.0
Armstrong	Kittanning	26	6	210.0	394.0	604.0
Armstrong	Valley	25	3	137.0	264.0	401.0
Armstrong	North Buffalo	39	10	215.0	619.0	834.0
Berks-Lehigh	Albany-Lynn	9	29	709.0	2,338.0	3,047.0
Berks	District-Pike	18	2	86.0	272.0	358.0
Berks	Douglass	55	1	*	*	620.0
Berks	Greenwich	17	10	220.0	596.6	816.6
Berks	Perry	16	11	217.0	1,051.0	1,268.0
Berks	Ruscombmanor-Alsace	8	5	128.0	267.0	395.0
Bucks	Bedminster	44	36	593.0	1,527.5	2,120.5
Bucks	Milford	7	10	212.0	367.5	579.5
Bucks	Nockamixon-Haycock-Springfield	3	21	378.0	537.0	915.0
Butler	Cranberry	48	16	370.0	954.0	1,324.0
Chester	E. & W. Nottingham-L. Oxford	1	16	618.0	1,095.6	1,713.6
Chester	Elk-East Nottingham	2	23	596.0	1,315.9	1,911.9
Chester	Highland	45	5	116.0	428.0	544.0
Dauphin—Lebanon	Derry-Conewago-Londonderry	47	8	148.0	595.0	743.0
Dauphin	Londonderry	40	30	383.0	1,465.2	1,848.2
Dauphin	Lower Paxton	52	15	242.0	896.0	1,138.0
Fayette	Bullskin-Connellsville	33	13	295.0	590.0	885.0
Fayette	Georges	20	12	255.0	692.9	947.9
Fayette—Westmoreland	L. Tyrone-Perry-S. Huntingdon	21	5	368.0	2,110.5	2,478.5
Fayette	Springhill	35	7	237.0	292.0	529.0
Greene	Dunkard	14	20	450.0	1,207.0	1,657.0
Greene	Morgan	13	16	352.0	1,095.0	1,447.0
Indiana	Rayne	37	13	233.0	957.0	1,190.0
Indiana	West Mahoning	38-A	16	430.0	1,952.0	2,382.0
Indiana	West Mahoning	38-B	9	220.0	818.0	1,038.0
Lancaster	Colerain-Little Britain	30	27	702.0	2,586.8	3,288.8
Lancaster	East Cocalico	34	27	323.5	892.3	1,215.8
Lancaster	E. & W. Donegal	43	33	521.0	1,671.0	2,192.0
Lancaster	Sadsbury-Salisburg	42	5	79.0	269.0	348.0
Lawrence	Union-Mahoning	31	11	194.0	390.0	584.0
Lebanon	Bethel-Jackson	23	28	450.0	1,614.8	2.064.8
Lehigh	U. & L. Macungie	53	2	88.0	227.0	315.0
Montgomery	Douglass	46	11	109.0	455.3	564.3
Montgomery	Franconia-Salford	4	38	738.5	1,072.5	1,811.0
Montgomery	Limerick	27	10	198.0	504.0	702.0
Montgomery	L. Pottsgrove-Limerick-N. Hanover	12	56	1,123.0	1,972.0	3,095.0
Montgomery	Skippack	10	31	553.0	710.0	1,263.0
Montgomery	Skippack, L. Providence	19	15	339.0	467.5	806.5
Montgomery	Upper & New Hanover	11	45	765.0	1,392.5	2,157.5
Northampton	Moore	54	8	237.0	348.0	585.0
Northampton	Upper Mount Bethel	32	3	39.0	575.9	614.9
Washington	E. & W. Pike, Fallowfield	5	21	583.0	952.0	1,535.0
Washington	North Bethlehem	22	10	229.0	527.5	756.5
Washington	West Bethlehem	6	19	512.0	1,028.0	1,540.0
Westmoreland	Allegheny	24	21	145.0	1,532.5	1,677.5
Westmoreland	Derry	15	7	200.0	606.0	806.0
Westmoreland	Rostraver	49	7	115.5	549.3	664.8
Westmoreland	Salem	28	4	102.0	274.0	376.0
			877	18,292.5	49,215.6	69,327.1

* Area not yet established.

EXCHANGING GAME ANIMALS AND BIRDS

One of the most pleasant features of Governor Earle's visit to Sweden last winter was his discussion of wildlife and game conditions with Swedish outdoor enthusiasts and sportsmen, including the Swedish royalties.

Every Swede loves the woods and all are hunters. To make this possible forests fires are unknown and there is more original growth timber standing in the two provinces of Gothland and Dalecaria than all of Pennsylvania. The moose, called in Sweden the "elk," giant bears, wolves, wolverines, pheasants, grouse averhahns, hazlehans, hare and rabbits abound.

Sweden is indeed a sportsman's dream of paradise. When Governor Earle described killing his first wild turkey on the slopes of Mount Dempsey in Perry county last fall old King Gustaf's eyes glittered with pleasure. The aged monarch recalled to the robust young Swedish-blooded Pennsylvania Governor how his old friend, former Czar Ferdinand of Bulgaria imported wild turkeys from Belleville, in Big Valley, Mifflin county, in 1896, and started a race of thirty-pound gobblers on his estate at Kritchim in the Maritza Valley.

Just as muskrats become as big as wolves in Hungary, the fifteen-pound gobblers of Pennsylvania doubled in size in Humelia. "Why not exchange wild turkeys for our giant ringneck and Mongolian pheasants?" echoed the Crown Prince. "It will be done, and with great pleasure," said Pennsylvania's young outdoorsman Governor.

Last April three wild "blubby jocks" and four wild turkey hens were shipped to Sweden while fourteen choice assorted pheasants were brought to Pennsylvania by Major Herbert Jacobson, royal Swedish game warden, on the steamer "Kungsholm," which conveyed the Swedish royalties and guests to Philadelphia in June.

Arriving safely the husky northern pheasants were sent to the John S. Fisher game farm at historic Schwenkville. While in Sweden the Crown Prince explained why Swedish moose (elks) have such poor heads. The woods are so thick the huge beasts have no place for combat like the American moose, hence nature is gradually dehorning them. The Governor told of one of the largest heads of an Alaskan moose killed by his father many years ago, which had hung in the senior Earle's camp at Saranac Lake in the Adirondacks, N. Y., and latterly in the hallway of the executive mansion in Harrisburg and enthusiastically agreed to send it to Sweden to adorn one of the hunting lodges of the Bernadottes.

The space in the hall at Harrisburg is now occupied by the mounted forty-pound dropla, or great bustard, killed by Governor Earle in the Hungarian stubble fields in the fall of 1933. And here let it be stated that by an interesting coincidence Governor Earle and two of the most brilliant and useful members of his administration, Colonel Robert Morris and Major Frank W. Melvin, are all descended from the same Swede, old Marks Huling.

"Through this exchange," says Col. Nick Biddle, genial head of the State Game Commission, "mutual feeling of fellowship and cooperation has been further cemented between the sportsmen of this Commonwealth and the Kingdom of Sweden."

CURRENT TOPICS

While the Swedes are attempting to establish the wild turkey as a game bird, Pennsylvania through this exchange has obtained some hardy new pheasant blood for its game farms.

Major Jacobson reported that when he left Sweden in the middle of June, twenty wild turkey chicks had hatched and were doing well. In the Yambol district of King Boris' realm, the sportsman son of Exczar Ferdinand of Bulgaria, has a race of native wild pheasants, "blacknecks," perhaps Governor Earle and the kindly Balkan monarch could exchange Pennsylvania ruffed grouse for the blacknecks and start these grand game birds in our mountains. Now that Bulgaria is re-arming, to celebrate this great event in her history, King Boris' gracious cooperation might be obtained.—By Henry W. Shoemaker, Department of Public Instruction, Harrisburg, Pa.

Miss Frieda Knepper, of Scarsdale, N. Y., suffered a fracture of the nose and lacerations of the lip recently when the automobile she was operating collided with a deer near Clearfield.

$110 FOR POUND OF BUTTER

From a small town in Michigan comes an interesting story of a man who, much against his will, paid $110 for a pound of butter. What has this got to do with a rod and gun column? Well, you see, this man tried to trade a couple of pounds of venison for the butter. A few minutes later the judge decided the venison was worth about $110 to the State of Michigan. It was either pay the money or sacrifice about ninety days in the local jail. It was a lot of money, but ninety days was a lot of time. The man who liked the direct barter system decided to pay.—*N. Y. Times.*

Special Deputy Attorney General Marshall M. Cohen has been responsible for several years for seeing to it that all titles secured by the Game Commission were in good condition has been transferred to the Department of Justice. During his period of assignment to the Game Commission he has directed the examining of titles, saw to it that defects disclosed were properly disposed of, and finally, on behalf of the Department of Justice, approved the titles. No land can be purchased by the Game Commission without the approval of the title by the Department of Justice.

Mr. Cohen was assigned to the Game Commission April 2nd, 1935, and has been most conscientious in his efforts to safeguard the interests of the Game Commission and sportsmen.

The Commission and his many friends wish him every success in the even more responsible position which he will hold in the Department of Justice. He assures the Commission of his continued interest in its affairs and will stand ready to extend helpful advice whenever he can.



Members of the Sub-Committee of the House Game Committee who handled the 1937 Game Code revisions, conferring with officials of the Game Commission. Left to right: Hon. John H. Siegel, Lycoming County; Seth Gordon, Executive Director of the Game Commission; Hon. Mahlon F. LaRue, Chairman of the Sub-Committee, Berks County; Hon. Samuel P. Boyer, Cambria County; Hon. Al K. Robinson, Allegheny County; Hon. Wilbert D. Imbrie, Butler County and Judd C. Turner, Assistant Director of the Game Commission.

During the period that the tomato season was in full swing the Game Commission was the recipient of numerous complaints to the effect that pheasants destroyed tons and tons of tomatoes every day in Lancaster County.

This situation when it did exist was largely due to the long protection given to hens. Strange to say, many sportsmen and some farmers for that matter, object to allowing the killing of any hens.

That Herons do take fish is evidenced by the fact that several American Egrets examined by a Pennsylvania taxidermist recently held a total of 87 fish, the majority of which were sunfish up to four inches in length. There were also a few catfish, one of which measured seven inches. There were also yellow perch, large mouthed bass, shinners and 3 baby carp.



Twelve applicants for taxidermist's licenses took examinations in the offices of the Game Commission recently under the supervision of the Taxidermy Board.

CURRENT TOPICS



Noted scientists and research workers from the U. S. Biological Survey, Cornell University, Pa. State College and other states attended the Inauguration of the Game Commission's new research unit at the Loyalsock Game Farm.

The Commission recently exhibited to a group of wildlife experts from Pennsylvania and surrounding states its new apparatus designed to determine the effects of changing climatic conditions upon wild game birds and mammals.

This device, technically termed a climactometer, consists of two principal parts. One is a large chamber wherein practically any desired climatic condition may be duplicated. Temperatures ranging from twenty degrees below zero to one hundred twenty above are produced by mechanical equipment automatically controlled. Winds are developed by special blowers, while rain falls from a series of nozzles on the chamber ceiling. Night and day are reproduced by lighting fixtures so constructed as to simulate the rising and setting sun, and to give off its beneficial ultra-violet rays. Connected with the climatic chamber is a complicated machine which records on moving ribbons of paper each and every period of activity exhibited by the birds or animals being tested.

The apparatus was designed by Richard Gerstell, Chief of the Commission's Research Division. Much of the actual construction was carried out by assistants in the Division, while the General Motors and General Electric Corporations built various parts of the machinery and rendered valuable engineering assistance through their exceptional research laboratories.

Although various fundamental scientific discoveries will doubtless result from the operation of the equipment, it will largely be used to solve numerous practical problems now faced by the Commission. Among these are testing the efficiency of winter game foods; determining the ability of introduced, or about to be introduced, species to withstand Pennsylvania's climatic extremes; and discovering the exact value of woodchuck dens as rabbit retreats.

WEAR RED

Mr. Charles Dougherty, of Bath, Pa., reports seeing on his half mile walk to work as many as five rabbits and one skunk run over by machines in one night.

Recently Colonel Nicholas Biddle, President of the Game Commission, called attention to the many benefits accruing to farmers and landowners as a result of the new Game Code which went into effect on June 3, 1937. The new Code, according to the Game President, affords many distinct advantages to the farmer which at first glance are not immediately recognized.

One of the principal advantages under the law, is that not only the farmer himself but any member of his family or household or regularly hired help may hunt upon his own and adjoining lands with the consent of their owners, without a license. This privilege, in most cases, gives the farmer and his family considerable territory upon which they may enjoy the sport of hunting without having to buy licenses and is a concession to the farmer for the courtesies extended to, and game raised for, the public hunter.

Another evidence of the consideration given the farmer in the enactment of the new Game Law, is that provision granting the Game Commission authority to revoke a hunter's license for periods up to five years for committing an assault upon a landowner or lessee. The rights of a landowner or tenant to control his own grounds are held in high esteem and today the hunter who assaults a farmer stands a good chance of having his hunting rights denied five years.

The Game President also pointed out that the farmer is also given rather liberal rights to protect his property against damage by wild birds and animals. He may dig out the dens of any wild animals, excepting beavers, in fields under cultivation, and he also has the right to kill or capture alive fur-bearing animals at any time they are found destroying personal property or in the immediate pursuit thereafter.

He is given the authority to kill such game animals as deer, rabbits, squirrels, raccoons and woodchucks at any time they commit material damage to farm crops or fruit trees. He may also retain a deer for food when killed under those conditions. A recent tabulation shows that farmers killed over 8,000 deer in the last five years to protect farm crops, over 90% of which were retained for food. Many farmers appreciate and exercise this authority to stop game animals from preventing them from realizing a reasonable income from the soil. The Commission is deeply sympathetic and always willing to cooperate when damage by wild animals is so extensive as to interfere with profitable farming.

The value of birds to the farmer in destroying harmful insects and small rodents on the farm has been estimated to be millions of dollars annually. The new Game Law, according to President Biddle, reduced the number of unprotected birds in Pennsylvania to ten, so that at the present time there are well over two hundred species of birds occurring in Pennsylvania at various intervals throughout the year which are protected at all times. Game Law enforcement officers are ever on the alert to see that these valuable birds are given adequate protection, without which, damage to the farmer's crops by insects and rodents would undoubtedly be much greater. The new law recognizes insectivorous birds as the friends of the farmer and the number of birds on the unprotected list today is lower than it has ever been in Pennsylvania.

Damage to farmer's property by hunters is now a direct violation of the Game Law subject to heavy penalties. It is unlawful for a hunter to leave gates or bars open, break down fences, tear down fence rail posts, or other piles, or injure live stock in any manner. Heretofore, this provision was not a part of the Game Law but was covered by a separate Act which did not come under the immediate jurisdiction of Game Law enforcement officers. The necessity for the farmer's safety has further been recognized by including in the new Game Law a provision prohibiting the discharge of firearms within 150 yards of any occupied buildings, without the consent of the owner or tenant.

This too was a separate Act before the 1937 Game Code included it in the Game Law, subject to enforcement by Game Protectors. The significance of this is that Game Protectors are directly responsible for the protection of farmer's property against careless hunters and for the prosecution of those who shoot too close to his buildings. The penalty for any of these offenses is $25.00 and Game Protectors are instructed to give farmers' property every protection in this respect.

Of further benefit to the farmer, the Game Chairman pointed out, is the payment annually of thousands of dollars in bounties each year for the killing of destructive birds and animals. Bounties are paid on the gray fox and the weasel and the killing of these animals is unquestionably a service to the farmer by saving his chickens, ducks, turkeys and other poultry. These bounties are paid from the Game Fund which is created and maintained by the hunters' license money. In addition to the above, bounties are also paid on the goshawk and the great-horned owl, both of which are highly destructive to the farmer's poultry.

Other provisions in the Game Law which benefit the farmer to some extent are: The requirement that a licensed hunter show his license certificate to the farmer or his employee upon whose land the hunter is found; the hunter's license tag must also be attached and displayed on the outer garment of the hunter's back so that the farmer may see same and identify the owner; fixing the hunting hours for all game from 7:00 A. M. to 5:00 P. M., with no Sunday hunting permitted, and delaying

CURRENT TOPICS

the opening hour of the first day of the small game season to 9:00 A. M.,; limiting parties hunting small game to not more than five persons; imposing a penalty of $25.00 for releasing a house cat on a farmer's land; prohibiting hunting or trapping with firearms while intoxicated; and prohibiting a hunter from shooting at game on or across a public highway. Heavy penalties are provided for these offenses, all of which are a direct violation of the present Game Code.

In view of all these considerations and advantages to the farmer, one cannot help but feel that the present Game Law of Pennsylvania does more to protect the farmer's interest than any previous law of its kind ever enacted in this State.

SIGN YOUR LICENSE

Considering the slaughter which will result if millions of men are set loose to test their marksmanship upon human targets, the number of persons killed in Pennsylvania and in the rest of the United States in what we persist in calling "hunting accidents" may appear, by contrast, too small to cause much concern. Yet, holding that any loss of life is a matter of serious concern, the Pennsylvania Game Commission is making an extra effort, as the hunting season approaches, to prevent deaths or injury from misuse of firearms. To this end it has prepared motion pictures on "how not to hunt" and is arranging their presentation in theaters throughout the state.

Carelessness with firearms kills at least 1,000 American hunters every year, according to statisticians of a big insurance company. A study has been made of 133 deaths, of which 60 resulted from the victims' own guns. Self-inflicted fatal injuries were the result of discharge of guns as the hunters carrying them slipped, stumbled or fell; climbing over or through a fence with a loaded gun muzzle-first; dragging loaded weapons from automobiles, boats or other conveyance; dragging guns up trees or getting them entangled in underbrush.

Of those killed by guns in the hands of others, most met death from shots fired by companions, some by unintentional discharge of a gun, some by stepping into the line of fire, some by ricochetting bullets. Nineteen were killed by hunters in parties other than their own. Of these, nine were mistaken for deer or other game by hunters too impatient to take time to distinguish the object definitely, or who hurriedly fired as soon as they saw a disturbance in the brush.

The self-evident conclusion from this and from any other study of deaths incident to hunting is that the instances are very rare in which the exercise of common sense and observance of simple rules of safety would not have saved life.—*Williamsport Sun.*

The new law enabling Game Protectors to seize hunting licenses of real violators in the field is working out very successfully and effectively.

A number of cases have been brought to light recently where the 1938 license period was very short-lived for some hunters—in fact the licenses were hardly sold before they were back in the Commission's offices again. Five of these cases involved the killing of squirrels during the closed season; another killing pheasants. In all instances the Game Protector recommended revocation of the hunting licenses for at least one year, and he proceeded to carry out his own recommendation in this respect by lifting the license and tag of each offender. The Commission later will undoubtedly deny these pre-season cheaters the privilege of doing any hunting whatsoever in Pennsylvania until August 31, 1939.

These hunters' licenses were back in the offices of the Game Commission within a week after they had been sold. One hunter lost his license by seizure the same day he bought it; the others lost theirs a day or two later.

The progress which many states are making along wildlife conservation educational lines was brought most vividly to light at a recent conference of the editors, publicity representatives and motion picture men of the various state conservation departments and commissions held at Put-In-Bay, Ohio, September 22 to 24 inclusive. This gathering, which was well attended as an initial undertaking, resulted in the formation of a regular organization embodying eligible members among wildlife conservation educators in the various states and will no doubt be the means, ultimately, of both inproving and increasing the scope of this increasingly popular field of endeavor. Attending the conference as Pennsylvania's representatives were: John G. Mock, Outdoors Writer of the *Pittsburgh Press*, Leo A. Luttringer, Jr., Chief of Education and Editor of the PENNSYLVANIA GAME NEWS and William L. R. Drake, Associate Editor.

A study of the propagating methods of several of the other states was also made by Charles W. Wessell, Chief of Division of Propagation and Game Farms of the Pennsylvania Game Commission, in order that the Keystone State be fully informed of the practices of other leading states in this field. Personal contact with representatives of other states has resulted many times in mutual advantage and is to be highly encouraged if and when the necessity arises for such interchange of ideas.

BE COURTEOUS TO FARMERS



Den of Dr. W. D. Imbria well-known sportsman at Harrisville and member of the Game Committee.

CURRENT TOPICS

One of the largest campaigns to reduce game law violations in the history of the Commonwealth will be launched this season. It is the Commission's plan to throw every available officer, regulars as well as deputies, into the field before the season opens on October 31. Reports of pre-season shooters are entirely too numerous and it is not the Commission does not intend to sit idly by while seasoned outlaws rob the legitimate sportsmen. Already a number of pre-season shooters have been apprehended and their licenses seized. By the time the field cordon is completed the nefarious practice will be broken up completely.

A great many special stations will again become operative this year in a determined effort to catch those individuals who insist on killing more than the limit or in killing illegal game. Last year these stations were both tremendously effective, and a great many cheaters learned their lesson.

All special stations are under the supervision of uniformed officers and there should be no hesitancy on the part of any motorist to pull aside when flagged by one of these officers. These stations will be moved swiftly as the occasion demands.

By operating under these plans the Commission hopes to frustrate those individuals who think they are canny enough to avoid apprehension. These special campaigns have met with the unanimous approval of all good sportsmen.

NOTES FROM THE FIELD

"For the past two years the deer situation in Potter County has been terrible. The farmers are getting up in arms about the amount of crop damage and movements are afoot in the local Granges to try and have more legislation regarding payment to farmers for crop damage. We have had 447 deer killed and reported by farmers since June 1. I hope the deer season will reduce the herd so that there will be enough room in this county for the farmers to farm."—A. G. Logue, D.G.P., Potter County.

"Within the past week I observed an unusual amount of game killed on the highways by automobiles. On September 19, from Sizerville to Emporium, a distance of 7 miles, I picked up four rabbits, one woodchuck, and one deer, all killed by cars."—Refuge Keeper Claude Kelsey, Potter County.

"September 12 started the fall flight of ducks with the arrival of several hundred American Widgeons. These ducks have taken possession of about 10 acres of buckwheat on Ford Island and Tract 154. The birds do not leave the Refuge Lake in the evening to feed in grain fields on private property. Grain may hold out during the flight, but none will be available for harvest."—Refuge Keeper Burt Oudette, Crawford County.

"One night a couple weeks ago Mr. John Wertz, who lives at the upper end of Rainsburg, told me that a large bird or animal had taken possession of his house roof. Upon investigation I found a mature turkey. The bird had alighted on the roof after dark. How long it remained is unknown as we didn't molest it."—Refuge Keeper Albert Bachman, Bedford County.

Twelve deer, mostly does were killed on highways in the Northumberland area and reported to Bruce Yeager, Warden in charge.

"While working on a Farm-Game Refuge Project I was fortunate enough to obtain a blacksnake. After cutting the reptile open to examine the stomach contents I noticed the heart was beating very violently. The heart was cut out and laid on a nearby tree, but even then, the vital organ beat very decidedly for the next hour."—Refuge Keeper Raymond M. Sickles, Fayette County.

"On Sunday, September 18, while patroling for pre-season squirrel shooters I came upon a very peculiar feast. A small garter snake had succeeded in catching a large toad and was starting the difficult task of devouring it. The snake was about eighteen inches long and the diameter of the body was no greater than the size of a man's forefinger. However, the snake managed to stretch and enlarge the front part of its body to a much greater size. Very slowly the toad was devoured. After one hour of very strenuous work the snake had succeeded in getting the toad swallowed until nothing could be seen but the mouth and eyes. At this point I interfered by striking the snake over the back. With little persuasion it gave up his meal and the still alive and much puzzled toad hopped away."—Refuge Keeper Raymond M. Sickles, Fayette County.

"On September 9 while working on Auxiliary 71, I found a young weasel which I have reason to believe was killed by an adult weasel. I examined it closely and found it was bitten in the neck and not hurt in any other place. I also found a fawn deer so entangled in a barbed wire fence that it died."—Refuge Keeper Ernest Hunsinger, Potter County.

It is with a sense of deep loss that we announce the superannuation of Refuge Keeper John W. Fenton in charge of Managerial Group No. 18, Blain, Perry County. John, who tendered his resignation as of September 30, has been on the staff since October 1, 1911, a period of 27 years. During that time he served honorably and faithfully and won for himself an enviable record with the Game Commission, and a high place in the esteem of thousands of sportsmen.

We also regret the resignation of Winfield R. McClure, who has been Game Refuge Keeper of Managerial Group No. 32, north of Clearfield, for the past three years. Mr. McClure was in charge of one of the oldest refuges in the State, and was well known and well liked in that section.

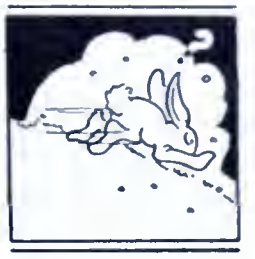
The following game refuges were established during August: Schuylkill County, Auxiliary No. 105, 55 acres; Warren County, Primary No. 86-A, 65 acres; Warren County, Primary No. 86-B, 160 acres; Lawrence County, Primary No. 150, 35 acres. Old Primary No. 502, in Clearfield County, was reduced in size from 3,107 acres to 1,578 acres.



What would some sportsman give to count among their possessions a collection like this? It is the trophy room of Hon. Wm. M. Kennedy, First President of the Pennsylvania Game Commission.



SPORTSMEN'S QUERIES



By CHAS. F. STAMBAUGH

KILLING DEER FROM A TREE

Q. Is it within the law to be in a tree during deer season to kill a deer?

S.G.—Johnstown, Pa.

A. It is. There is nothing in the present Game Law to prohibit a hunter from killing a legal deer in season while the hunter is seated in a tree, providing he does not shoot across a highway at the deer or kill the animal at a salt lick. Great care should be exercised in climbing a tree with a gun in hand.

* * *

WOODCOCK AND WILD DUCK SHOOTING ON OCTOBER 31st

Q. According to this year's regulations, the hunting hours are 7:00 A. M. to 5:00 P. M., but no hunting of any kind is to be permitted before 9:00 A. M. October 31st. Does this apply to hunting woodcock and wild ducks on that day?

G.M.K.—State College, Pa.

A. Yes, it does. Under a resolution of the Game Commission, no hunting of any kind will be legal before 9:00 A. M. on October 31st, which is the opening hour of the general small game season. This means that it is unlawful to hunt such game as woodcock, wild ducks and raccoons before 9:00 o'clock on the morning of October 31st.

* * *

SHORT-BARRELED SHOTGUNS FOR GAME HUNTING

Q. (1) Is it legal to use a twenty-inch barrel on a shotgun for small game hunting?

(2) Are there any restrictions as to length of shotgun barrels that may be used for small game?

R.D.W.—Uniontown, Pa.

A. (1) There is nothing in the Game Law to prohibit the use of a twenty-inch barrel on a shotgun for small game hunting, but the Firearms Act of 1931 requires special registration with your County Treasurer to transport a shotgun with a barrel under twenty-four inches in length, for hunting purposes. This registration will be taken by your County Treasurer for a fee of fifteen cents when you show him a hunter's license for the current year.

(2) The Game Law places no restriction whatsoever upon the length of shotgun barrels that may be used for either small or big game hunting. The only restriction as to such barrels is that mentioned above.

HUNTING DEER WITH A .22 RIFLE

Q. Is it lawful to hunt deer with a .22 rifle in this State?

E.R.C.—New Milford, Pa.

A. There is absolutely nothing in the present Game Law to prohibit hunting deer in season with a .22 rifle of any type except an automatic. We strongly advise the use of a more powerful rifle for big game hunting, so that the game will not get away and suffer until another hunter kills it.

* * *

UNLICENSED PERSON ACCOMPANYING A HUNTER

Q. I take out a non-resident hunting license every year in Pennsylvania to hunt raccoons. If I take a man with me while hunting in your State, does he require a license? He merely goes along for company.

W.S., Jr.—E. Palestine, Ohio.

A. The Pennsylvania Game Law requires a hunter's license to be in possession of any person who actually participates in hunting wild birds or wild animals. However, we do not construe the Act to require a hunter's license for one to accompany a licensed hunter on a hunt if that person merely goes along as an observer. He must not, without a license, carry any equipment or game, or participate in any manner in the actual hunt. His function without a license must be strictly that of an observer.

* * *

OPENING HOUR FOR DEER HUNTING FIRST DAY

Q. Does the deer season open at 7:00 or 9:00 o'clock on the first day?

F.F.C.—Allentown, Pa.

A. The 1938 deer season will open at 7:00 o'clock A. M., November 28th. The 9:00 o'clock opening does not apply to deer hunting this year.

* * *

HUNTING BIG GAME WITH BOTH BARRELS OF SHOTGUN LOADED

Q. May I hunt big game with a double-barrel shotgun when both barrels are loaded with ball shells?

J.O.C.—Warren, Pa.

A. It is legal to hunt deer or bear with a double-barrel shotgun when both barrels are loaded with what is commonly known as "pumpkin" ball shells. It would be a technical violation of the law to discharge both barrels at a deer or bear at the same time. The Commission does not, however, prohibit the loading of both barrels of a shotgun on this account.

PARTIES HUNTING FROM THE SAME BOARDING-HOUSE FOR DEER

Q. Is it lawful for two parties maintaining separate rosters but not hunting together to board at the same boarding-house and each kill the camp limit of deer?

E.P.—Frank, Pa.

A. We see no objection to two separate parties hunting deer from the same boarding house if they do not, at any time, cooperate with each other while hunting. It is to be understood, however, that this applies to a boarding house occupied on an annual basis and not to a private hunting camp. Each party should, of course, maintain a separate roster and at all times avoid any situation wherein it might be accused of cooperating with the other party. A group of hunters operating from a private camp is limited by law to the killing of six deer, regardless of how they hunt, except that they may divide their party and hunt at separate times during the season. In that manner, it might be possible for them to kill more than six deer from the same camp, but no individual may participate in any manner in the killing of more than six deer in one season.

* * *

CARRYING GUN AFTER KILLING A DEER

Q. After I kill a deer during the season, may I carry a gun any part of the remaining season, for vermin shooting or any other reason?

J.M.—Wilkes-Barre, Pa.

A. The present Game Law does not definitely prohibit a deer hunter from carrying a gun after he has killed a deer. However, we in all fairness fail to see any reasonable excuse for a hunter to carry a rifle or shot gun while participating in a deer hunt with others after he has killed a legal deer, on the pretense of attempting to kill vermin. Under those circumstances, it will be the better part of sportsmanship for the successful deer hunter to leave his gun at camp or other headquarters and continue to participate in the hunt only through the method known as driving. An attempt in any manner to kill a second deer in one season is strictly illegal. Why then place yourself in a position where you may be tempted to violate the law and subject yourself to a penalty of $100.00?

WITH THE CLUBS



Winners in the All Age Stake at the Reading Field Trials. Mark Spacht, of Wiconisco with "Silvan Joe," who took second, left; Dr. Sherman Ames, of Easton, right, with the winner, "Sherman's Dan."

The Sewickley Shooting and Fishing Club of Allegheny County is to be highly commended for the interest it has been taking in the game of that community. During the past year the club purchased and stocked 300 bobwhite quail, 416 rabbits and 4 chukar partridges at a total cost of $893.00. Mr. E. J. Flesher, member of this active group writes, "I think it pertinent to tell other clubs to do likewise. The hunters are demanding game to hunt and there are only two ways to get it, i.e., either raise it themselves or pay more in licenses so that the Game Commission can."

A great many sportsmen's organizations are now actively working in cooperation with farmers in the betterment of wildlife conditions. There has recently been formed in the vicinity of Quarryville an organization called "Southern Lancaster County Farmer-Sportsmen's Association" with a membership of 225.

Mr. Allen Wiker, President of the Lancaster County Federation of Sportsmen's Clubs, said that their organization now has over 2500 feeding stations active in that section.

The Pioneer Fish and Game Protective Association, Allentown, has undertaken a game trapping and restocking program under the supervision of Game Protector William A. Moyer of that vicinity. The club appropriated $50.00 for the purpose from its fund.

Due to efforts exerted by Lewis W. Stevenson, of the Farm Security Administration of the U. S. Department of Agriculture, and John Youngman, Vice-President of the Pennsylvania Federation of Sportsmen's Clubs, and an official of the Consolidated Sportsmen of Lycoming County, farmers of that county are taking a deep interest in the farm-game program. At a recent meeting approximately 50 farmers and their wives, clients of the Farm Security Administration in the Williamsport area, met and discussed the value of wildlife on the farm as outlined in the Game Commission's new Bulletin No. 16 by James N. Morton, entitled "Wildlife in the Farm Program." Mr. Youngman, basing his talk almost wholly on this bulletin, won the support of many landowners.

The Adamstown Game and Gun Club of Adamstown have purchased a tract of land on which they have begun to erect a clubhouse. Before raising the clubhouse 12 pens were built in which to raise rabbits.

Edward Dubinick, an interested sportsman from Essington, writes that he collected $13.50 from sportsmen in Tinicum Township, Delaware County, and then turned around and bought thirteen ringneck pheasants with the money and liberated them in that section.

Any numbers of Volumes I to IV of *The Auk*; also early Wilson Bulletins. Readers of the GAME NEWS who have extra copies of the above are invited to communicate with Dr. George M. Sutton, Fernow Hall, Cornell University, Ithaca, N. Y.



Winners in the All-Age Open Class of the Beaver Meadows Field Trial, DuBois, Pa. Left, Thompson's Comanche Tex, first; center, Glenn Dale Toby, second, and Virginia R. Boy, third. Holding the dogs are, left to right: John Thompson, handler; Jake Steis, handler; Mrs. M. B. Driggers, handler. The judges, Roy S. Johnson, Buffalo, N. Y., left, and A. Hunter Willis, Erie, Pa., former member of the Game Commission right, are also shown in the picture.

WITH THE CLUBS

The Federation of Sportsmen Clubs of Lehigh County is to be highly commended for the educational work they are promoting in that section of the State. Recently the Federation as a combined unit placed twenty-five subscriptions to both the *Angler*, and the GAME NEWS, in a like number of eligible schools. At the same time Game Protector, William A. Moyer donated at his own expense twenty-five copies of *Pennsylvania Bird Life* to be given with each subscription of the GAME NEWS to compensate for the bulletin, "Common Fishes of Pennsylvania," which was given with each subscription of the *Angler*.

The Reading Chapter of the Izaak Walton League also is to be congratulated for having purchased and distributed among the schools of Berks County, one hundred copies of the new bird bulletin. As a result of this pioneer work many other associations throughout the State are following suit—so much so in fact that very few copies of the initial run of 10,000 bird bulletins remain. The possibilities are that the Game Commission will reprint the pamphlet in the near future.

PAGE MR. RIPLEY

Fair Lady: "I want to buy a duck stamp for my husband."

Post Office Clerk of Butler, Pa.: "Yes Lady . . . . That will be one dollar."

Fair Lady: "Just how does he use this stamp and will he have to paste one on each duck?"

The Sweet Valley Fish and Game Protective Association released many rabbits and over 100 ringneck pheasants during the past year. It also doubled its membership.

Sportsmen who have bands in their possession which were taken from ringneck pheasants or quail killed last year are urged to send them in immediately, with the location where the birds were bagged.

It is the Commission's purpose to issue new bands this year and it will save a lot of time and trouble if all the old bands are returned and reported before the new ones are used. All hunters are urged to cooperate to the end that the banding experiments which the Commission is carrying on may be facilitated and made worthwhile. It is to every sportsman's benefit to comply with this request.

In the sixth edition "American Men of Science" released recently there appears the names of three former employees of the Pennsylvania Game Commission, all of whom served in official capacities in the Division of Education. They are as follows: Dr. George M. Sutton, Curator of Birds, Cornell University, Ithaca, N. Y.; Dr. Thomas E. Winecoff, retired; and Dr. Charles S. Apgar, Supt., Cornell Morphological Station, Lake Mohegan, N. Y. The Pennsylvania Game Commission is proud in having had these men affiliated with its educational program.

The largest gallery in the history of field trials in eastern Pennsylvania witnessed clever performances in the open all-age stake, with 17 nominees, feature of the annual fall trials of the Keystone Setter and Pointer Club at Sports Acres.

The classic was won by Sherman's Dan, a white, black and ticked English setter, owned and handled by Dr. Sherman Ames, veteran Easton campaigner. Second award went to the orange and white pointer, Sylvan Joe, owned by Mark Spacht, of Lykens, and handled by Robert Bell, Gettysburg sportsman. The white and black pointer, Ivor Knoll Spotty, owned and handled by W. Lippincott Colkett, of Villanova, took third. Judges were William Greene, Runnemede, N. J., and Harold Watson, Cornwell Heights.

REPORT ALL BANDED BIRDS

In order to find out just what becomes of the various game birds annually released, the Commission has adopted a policy of leg-banding all such game.

If the program is to succeed, all persons killing banded birds must cooperate by reporting them to the Commission's Division of Game Research and Distribution. Each report should contain the date, and the exact location where the bird was taken, including the name of the general locality and the name of the township and county in which it is situated. This will enable the Commission to determine the distance traveled by the bird and so give a full report to the hunter.

Concerning this matter, it may be said that although the Commission offers no prizes for the return of "lucky numbers" bands, some sportsmen's organizations do so and a report to the Commission will render each hunter eligible to receive a prize.

In a certain county six young hunters who had failed to file the proper Game-Kill Report, admitted their delinquencies, invited the Game Protector to prosecute them and put them in jail. He did so, and it is apparent the hunters decided they would "stage" a party while in jail. The Sheriff sensing the situation, searched the prisoners, took two quarts of whiskey, which were concealed on their person, and about two hundred (200) pennies that were intended for a poker game. All six remained in jail for four days, minus the ingredients for their party.

John C. Caldwell, Head of the Educational Division of the Conservation Department of the State of Tennessee visited the Commission recently in an effort to learn what Pennsylvania is doing along conservation education lines. Tennessee is progressing notably in this field of endeavor, particularly in her conservation activities in the public schools.

LOST OR STOLEN!

One Black and White coon hound, medium size, weight 40 to 50 pounds. About all white on right side, slightly ticked in white, white feet and legs, tan ears. Positive scars on each front leg above each knee on inside. Scars about 1½ inches long by ¼ inch wide and not haired over. They run up and down the legs, one scar on each leg. If found notify John Carnahan, Box 236, Oil City. The dog is very friendly and answers to the name of Vick.

One Remington Pump Gun, 12 gauge, serial No. 10235, Model 31. Registered with Remington Arms Company. Has Ithaca recoil pad. Stolen from car September 15 between 9 p. m. and 12 p. m. in front of U. S. Post Office, Hamburg, Pa. It was in original packing case when stolen. Information leading to the whereabouts of this gun should be forwarded to the Pennsylvania Motor Police and to Raymond E. Casper, Jr., 727 North Fifth Street, Hamburg, Pa.

Three-year old, white, black and tan fox hound dog about thirteen inches tall, wearing leather collar with Lancaster County Dog License Tag No. 5219, answers the name of "Drive." Any information will be appreciated by Lloyd R. Lynch, R. D. No. 2, New Holland, Pa.

Pointer answering to the name of "Rex". Lost in Lancaster County, August 17. White with liver spots on front legs and head. Blind in one eye. If found, notify J. Hale Steinman, Lancaster. Reward offered.

Savage .303 rifle. High power lever action. Left side of stock has 2½-inch dent; also, left side contains saddle ring. If located, communicate with Charles H. Fritz, RFD 3, Ephrata. Reward offered.

Down in West Virginia they are going to cut the Mingo white oak, one of the largest of white oak trees in the country. This giant of a forest whose age has been variously estimated as from 600 to 1200 years was attacked by fungus growth several years ago and this spring for the first time leaves failed to appear indicating that it was dead. The Mingo oak has a circumference of 30 feet at the ground and over all height of 135 to 165 feet. It is estimated that a volume of 20,004 feet of lumber will be made from the tree, enough to build three six-room houses. Experienced woodmen will fell this giant, sections of which will be preserved for museum pieces.

SCATTER LOADS



Many a Whistle Pig falls before the unerring aim of Wilbur Taylor, modern Robin Hood of Port Royal.

Sixty beaver colonies in Palisades Interstate Park, N. Y. were credited with having saved three arterial highways from serious flooding during the recent hurricane and tidal wave, preventing the certain destruction of at least one bridge and retarding the erosion of hundreds of acres of soil. The animals known as "the earliest of engineers" thus repaid a debt to mankind.

Up in Beesham, Massachusetts, Lester Raimey spread his fish net out on the lawn of his home to dry. The next morning when he went out he was surprised to find a 23 lb. porcupine tangled up in its meshes. Authorities say that this is the first porcupine found in this locality in the last fifty years. Mr. Raimey hopes to keep the animal for a pet.

While driving along a California road recently an autoist looked back to find that he had a large size bobcat riding on the trailer attached to his automobile. Evidently intrigued by the machine the cat jumped to the highway and rushed to the front of the car. In the ensuing battle the automobile triumphed.

Even flies are protected in India, and the multiple examples among the fauna of the belief in reincarnation apparently left nothing for a society with a long name to teach the people kindliness to the lower animals. When these animals are wild, however, there is found to be plenty of need for their protection unless extinction is to ensue.

For this reason *The Times* of India some years ago started agitation for an All-India Association for the Preservation of Wild Life. The Bombay paper recently reporting the progress made said that "every month evidence comes to hand of the interest in this topic", and adds:

"A wise attempt has been made to reach the masses in an output of pamphlets, etc., in Indian languages. This is only on the propaganda side. More constructive spade-work has been done, and where certain areas have been denuded of partridges and other birds through excessive netting or shooting, a proposal has been made for restocking from a central farm where these birds will be bred."

"Similar restocking is to be taken up by the Travancore government. Here the recently appointed game warden has succeeded in persuading the Legislature to allow him to restock the game sanctuary in Nellikampathy with spotted deer."

"Burma has also recently passed a wildlife protection bill."

Shooting deer with bow and arrow will be permitted in southern Wisconsin for one month this fall.

Dr. Leon Mooney, Ozark Mountain hunter of Mountain Home, Arkansas, knows how it feels to catch a wild turkey by the skin of his teeth. He's been doing it for two years as the result of a chance discovery. He reached his favorite hunting ground in the wild, wooded hills along the Missouri border one day, and found he had left his cedar box caller at home. Seeking a substitute, he pulled the upper plate of his false teeth from his mouth, placed them in the hollow of his hand, and scraped the edge slightly with the blade of his pocket knife. A clear "kelp, kelp, kelp" was the result, and up rushed a gobbler. The next day the doctor ate the bird with the teeth which had summoned it to its fate.

Wild geese are uninfluenced by Hollywood. They mate for life.

Changing a Utah "death trap" for wild ducks into a safe feeding and nesting refuge is the aim of the first project approved under the new Federal-State Cooperative program for wildlife restoration.

You will now have an opportunity to hunt Russian wild boar this winter, as the supply of these introduced animals in the forests of North Carolina has increased to a point where the Conservation Department has declared an open season on them in the mountains in the western part of the state. Season October 1st. to the 1st. of January inclusive. The same area is well populated with bear and deer which may be taken without special permits.

Caused by carelessness with guns. Analyzing records of 133 deaths in typical shooting accidents, statisticians found that 60 were caused by self-inflicted wounds, while the others were caused mostly by shots from the guns of companions or other hunters, and, of the former, 16 occurred when the hunter slipped, stumbled or fell, while 13 came as the result of climbing over or through fences while carrying loaded guns, muzzle up.

A fine specimen of the common groundhog appeared on Lafayette Street in New York City. A crowd collected and stared. The groundhog stared back. One of the onlookers, very much scared, reported a wild beast on Lafayette Street. Finally a member of one of the local hospitals nearby recognized and captured the wild beast.

It is supposed that the animal was being transferred somewhere when it crawled out of its cage and fell off a truck.

A courageous pair of robins built their home in a small dogwood tree scarcely an inch in diameter and not more than three feet above the waters of the Merced River, Yosemite National Park. As the birds were in plain sight, dozens of people were constantly about. Fishermen continually chose the spot to cast their lines and photographers taking advantage of this rare chance to get candid camera records of the robin life cycle swarmed to the site of the nest. Despite all these handicaps the two robins staunchly stood their ground and succeeded in hatching out their brood.

During the reign of Queen Elizabeth there were some 900 different persons and registered corporations that were listed as keepers of the swan in England. Each bird was accurately marked on its beak to designate its owner and all birds not marked were considered royal property.

For years Jack Miner has kept white whistling swans in ponds about his bird sanctuary, but so far his efforts to have them pair off have been without avail.

SCATTER LOADS

Edward K. Love, a prominent St. Louis real estate dealer, has announced a $100,000 gift for a Missouri Wildlife Conservation Foundation, the income of which will be spent for purposes recommended by the Missouri Conservation Commission. In a statement issued by Mr. Love he said, "The new non-political Commission is doing a fine work and the income of this fund may help out in some cases where the Commission hasn't the money or needs money more promptly than it can be had from the state. Should they need money to feed quail in winter the money can be had at once. The quail can have their grain next day. I personally would like to see some of the money used for better enforcement of the law against these fellows who go out and dig, seine and dynamite fish." The income from the Foundation will not be large, perhaps $5000 a year, and Mr. Love expressed the hope that it will be supplemented by other gifts from other prominent men. The new fund will be called the Edward K. Love Conservation Foundation and will be administered by a board of four including Mr. Love; two sons, Edward K. and Andrew Sproul, E. Sydney Stevens, Chairman of the Conservation Commission and Thomas N. Dyser, President of the St. Louis Chamber of Commerce. Mr. Love stated that three considerations led him to create this foundation. They were: first, "to express my appreciation of the benefits and enjoyment which I have derived during my life with the wildlife which the state of Missouri had in the past afforded;" second, "with the hope that the Foundation may contribute toward the preservation and restoration of the rich areas of wildlife in Missouri;" and, third, "the creation by the people of a state conservation committee, an agency free from any political or selfish influence and fully authorized to administer wildlife preservation on the basis of merit and efficiency."

One mother raccoon has made certain that her children will have the proper religious upbringing. The Ohio Conservation bulletin reports that an old ringtail moved into the Pleasant Grove church near Mt. Victory. It made a den between the plastering and the side wall of the church and proceeded to raise a family of four despite all efforts to dislodge her. The congregation has now accepted these non-conformists and take things for granted when mother and cubs romp in the belfry and balcony during the Sunday service.

Under a comprehensive program directed by State Fish and Game Commissioner Marvin A. Spaulding, chairman of the Deer Damage Committee of the New Jersey State Fish and Game Commission, a series of food patches are being developed deep in the South Jersey pinelands to attract deer from seeking food in nearby cranberry bogs and farmlands.

Mink farmers have found canned carp a cheap and satisfactory food for use on their fur farms.

The right to fish in New York's waters is not granted to every person who applies for a fishing license, the Conservation Department revealed today—especially if the applicant calls himself the "Angel Noah".

Department officials were recently confronted with such a problem. Accompanying the application of the "Angel Noah"—at present leading a celestial life in Father Divine's "Heaven" near Kingston—was a U. S. money order tendered in payment for a Hudson River netting license. Inasmuch as the Federal Government had recognized the heavenly name, Department officials were at first inclined to issue the license. Then several questions arose creating a doubt in their minds as to the legality of such action.

First, fishing licenses according to the Conservation Law are not transferrable. However, there would be nothing to prevent the "Angel Noah" from passing his license on to "St. John, the Baptist" or some other member of Father Divine's heavenly realm. Certainly game protectors who are constantly checking licenses of fishermen would not be required to identify the "Angel Noah" on sight. Then, too, if the license were issued, it did not seem quite fair to place earthly fishermen in competition with those from "Heaven" and who might have had instructions from "St. Peter", reputed to have been a past master at the sport in his day. The final problem which had to be considered was perhaps the most puzzling of all. What kind of a license could be issued? If the Department recognized the "Angel Noah" from "Heaven", a resident fishing license could not be issued and they were in a quandary as to whether it would be proper to issue a non-resident or an alien license. On account of all the questions that were arising they decided to call the whole thing off—at least until they had an opinion from the Attorney General's office. The Attorney General advised the Department to withhold issuing a license to the applicant giving his name as the "Angel Noah" until such time as he had furnished his real name.

A collection of birds from the Ukrainian Animal Preserve will be a prominent exhibit in the All-Union Agricultural Exposition, which opens in Moscow on August 1. The birds were sent to Moscow during June in order to acclimatize them, since they came more than eleven hundred miles north of their regular habitat; also to accustom them to zoo life, which bring them thousands of unaccustomed visitors.

A few of them are already tamed, but the vast acreage in the Ukrainian Preserve permits most of them to remain in a wild state.

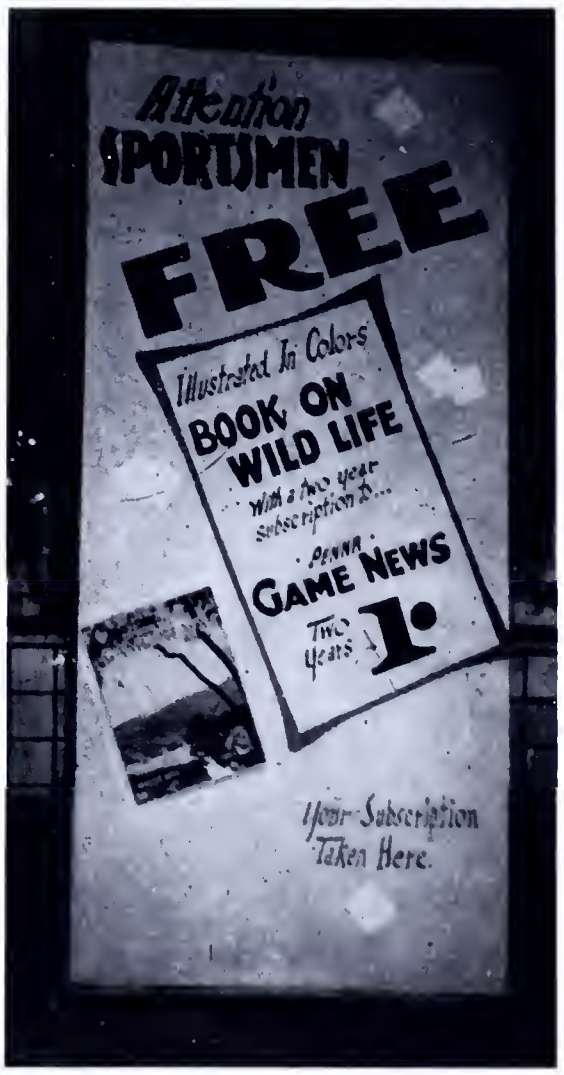
The Society for the Preservation of Nature is active throughout the year in promoting the conservation and propagation of the Russian bird population. "Bird days," organized in all districts of the Soviet Union, are planned to give school children a prominent part in this holiday. The children arrange exhibitions of bird houses and parade with slogans calling for the preservation of birds. From Moscow to Uzbek, they put up the boxes in the trees of parks, farms and forests. The young naturalists keep records on bird migrations and habits.

The All-Union Society aids them by publishing three magazines on birds, to which leading scientists contribute.

Visitors to the Agricultural Exposition who lean to ornithology, will have opportunity to visit a gull preserve in a small lake twenty-five kilometers from Moscow, where as many as 20,000 gulls have built their nests on a square kilometer. In some places the nests, like hillcocks, cover the surface of the water and make it possible to walk across the lake after the Autumn departure of the gulls. Another refuge near Moscow is Senejski Lake, an artificial body of water resulting from an attempt to connect the Moscow River with the Upper Volga.

At the territory of the Timiryazev Agricultural Academy in the outskirts of Moscow, the experiments of school children in the breeding of useful birds may be studied. There the children replaced the eggs of city sparrows by tomtits' eggs, thus increasing the numbers of active insectiverous birds. The examination of 4,000 nests in the grounds showed that the sparrows hatch the eggs of other species.

The Astrakhan Preserve, in the delta of the Volga River where it falls into the Caspian Sea, was founded at the order of Lenin at the beginning of the revolution. It shelters about 230 different varieties of birds, among them rare species. In this region, the peasant custom of hanging out birds' nests is centuries old.—*N. Y. Times.*



Dave's Army Store, E. Pittsburgh, used the above poster to advertise the "Game News" and the supplemental book on wildlife.

Controlling the Goshawk

Wherein Several Pairs of Confirmed Grouse Killers were Humanely Removed

by M. E. SHERMAN



DURING the fall and winter of 1937-38 very few goshawks were observed in the north tier counties of the state. However, knowing from past experiences that the birds nested in limited numbers in the beech ridges of Potter County I decided to check carefully this spring to find out whether they were still around or whether they had sought other quarters.

On May 15 District Game Protector Arthur Logue told me of a nest in the southern part of Potter County and later he, Protector Ohlmann, Hunsinger, and an expert climber by the name of Lewis and myself investigated it. When we were within a hundred yards of the nest the large female began screaming wildly, determined to protect her young at all costs. Apparently the male was away hunting for we did not see him. Hoping to get both birds at the same time we decided to withdraw and give him a chance to return. Previous observations I made of goshawk nests showed the male to remain away anywhere from one to two hours at a time.

While waiting for the female to quiet down and the male to return we visited a Cooper's hawk nest. The conduct of these birds at the nest is about the same as that of the goshawks except that the one at the nest will sneak away, hoping to escape discovery. While we were in that vicinity we came upon a splendid specimen of rattler which Protector Logue hastily decapitated with a .22 hollow point. It was over 48 inches long.

Leaving that area we began silently approaching the goshawk nest again, but had traversed only a short distance before the keen-eyed female began her shrill cuk cuk cuk's. At the same time she started to attack, and believe me an angry goshawk, male or female, can make her presence known. Soon the male came to the rescue and launched a magnificent defense, darting through the thick foliage like a bullet and shouting his defiant cries. I was thrilled and awe-stricken at the magnificence of the bird. It took us quite some time but by careful maneuvering we ultimately got in strategic positions and managed to kill both birds. We collected the young for research experiments through the assistance of Mr. Lewis, who successfully negotiated the sixty foot nest tree.

For more than a dozen years I have taken special interest in the birds of prey. My experiences have led me to Hawk Mountain, near Drehersville, Schuylkill County, on the flight ranges in Lackawanna, Luzerne, Monroe and Pike Counties, and elsewhere in my travels as a game protector. Their migration flight is one of the most interesting phenomena of nature; likewise their life and habits. To me they symbolize all that is wild and free. They are much maligned because they take that from which man attains great pleasure.

Well-thinking sportsmen desire that they be controlled and have encouraged bounty to be paid for the destruction of their kind. I hesitate to approve the wisdom of doing this, as they do, without doubt, serve as one of nature's most perfect checks and balances.

• A 30.30 SPEAKS •

By THOS. WITHERSPOON

HI YA FELLARS! I'm jest a little ole thuty thuty Winchester jest a bustin to talk. Ye see the reason I gut so much to say is, I just been a readin that thar PENNSYLVANIA GAME NEWS.

Ya say ye dint think I cud read, well now thars a heap of things us ole smoke wagons kin do sides gitten blamed fer missen the big uns.

Now if ye set and listen fer a couple of minutes, I'll tell ya I cum to be a readin that thar mag.

Ye see the fellar what owns me and seven er eight others of my kin folk keep us all in a cumfy ole cabinet an he wuz a lookin us over fer about the steenth time this day an while he wuz a moonin over us his Mrs. cums an hollers to him that the mail had cum. So he leaves the cabinet door open and goes ater the mail.

Purty soon he cums back with some letters and a magazine, he heaves the letters on the table an sets down with the magazine.

Now I've heerd tell as how it ain't perlite to be a readin over a pusson's showlder, but thats jest what I did and I ain't a might sorry fer it cuz it turned out to be the GAME NEWS. An jumpin grasshoppers how that fellar pi-rused that thar mag. His Mrs. wuz a hollern fer him to cum a fix the furnace, but he never heerd her a tall cuz his spirit was a trampen the ole Pennsylvainy hills and dogoned if I wuz'nt a spirit walking along with him.

Ater a readin that thar mag. I just want to say that all us fellars ought to be proud of the men what edit that thar GAME NEWS and all the fellars that make up the game commishun, becuz if it weren't fer them, I guess me and the rest of my kin folk would jest be a hangin over the fire place like ole grand pap K. Long Rifle—jest relics by bygone days, and you fellars would be a dreamin or jest a readin about the days thar used to be sumpin to hunt in ole Pennsyvainy.

But insted thanks to these commishun fellars, the huntin gits better every year.

An those fellars what write them thar stories and tell thar experiences sure give ya that ole outdoor fever, specialy that thar fellar, N. R. Casillo. Now in my estamashun he is a real hooper doo jim dandy sportsman cuz ya kin tell the way his stories read that his hull heart and soul is in the great outdoors.

Then ya take them thar picters whats in the GAME NEWS, ya kaint cuz thar all took rite in our good ole state an when ya look at em ye realize ya don't have to go to Africa er the Rocky mountins to hunt big game and the way our state is takin holt of conservashun them thar fellars frum Africa will soon be cumin over hear.

Well I reckin I will sign off now with these here words of wisdom.

Ef ya want to be a real sportsman support the Game Commishun in all thar activities cuz remember they are always trying to help yow and me to better sport.

Obey the game laws and respect the rights of the farmer an ef ya do this ya will always have game and lots of territory to hunt on.

Last but not least subscribe fer the GAME NEWS and read it frum civer to civer.

WILDLIFE MANAGEMENT IN THE WORK OF THE SOIL CONSERVATION SERVICE IN PENNSYLVANIA

By FRANK C. EDMINSTER



THE SOIL Conservation Service has been specifically charged by Congress with the function of controlling erosion. In carrying on any program for the control of erosion, the most careful consideration of land use is necessary. Any "action" agency involved in land use policies must consider all of the important natural resources of the land. Wildlife is one of those resources.

The control of erosion is largely a matter of manipulation and control of vegetation. Vegetation constitutes almost exclusively the habitat of our wildlife species. Hence, any erosion control program must necessarily, for good or for bad, affect the welfare of all wildlife populations. It was, therefore, urgent that the work of the Soil Conservation Service take adequate consideration of the needs of wildlife populations in its program for erosion control.

The basic essentials controlling wildlife populations are food and cover, which together constitute their habitat. All animals must have adequate food and cover all seasons of the year if they are to survive. All other considerations are secondary to this need for food and shelter. Water is, of course, a fundamental need which may be either food or shelter, depending upon the use made of it.

Since the use of vegetation may at the same time control erosion and provide satisfactory food and cover for wildlife, the wildlife program of the Soil Conservation Service is substantially one of providing good habitat. This means proper management of existing habitat, such as woodlands, hay fields, pastures, crop fields, and swamplands, and the provision of new habitat through planting. Most of the permanent plantings in Pennsylvania are trees, shrubs and vines which are planted to provide future woodlands and wildlife coverts. Plantings of woody vegetation are also made on all highly eroding areas, such as gullies, streambanks, roadbanks, fencerows, etc.

Not only is it important to provide adequate quantities of the right kinds of food and cover-producing plants, but it is just as important to provide the best arrangement of the stands of the different types of plants. Carrying capacity for various forms of wildlife depends not only on the quantity and qualities of the different types of habitat but also of their arrangement and interspersion with respect to each other. In rearranging the layout of the farm to provide for conservation farming, sloping crop fields are laid out in narrow contour strips, thus providing much greater interspersion of the different types of herbaceous vegetation than existed with block fields.

Similarly the planting of woody vegetation for new woodlands includes a mixture of conifer and hardwood trees as well as a border planting of lowgrowing shrubs and vines in order to give the proper proportions and arrangements of the different types of woody growth. Arrangement and interspersion of woody vegetation is obtained throughout the cultivated and pastured areas of the farm by utilizing all gullies, banks and contour fencerows that are suffering from erosion for woody plantations.

This program of habitat management and construction is the basis of any sound wildlife program. However, there are other phases of wildlife management that are also important. Although the Soil Conservation Service does not in its own program undertake such phases of wildlife management as law enforcement, use of refuges, and artificial restocking, these matters are given consideration with cooperating farmers in the form of suggestions as to the best practices. This is also true of the use of food patches and artificial winter feeding, although there are instances in which the Service demonstrates these practices on cooperators' farms.

The Soil Conservation Service has been operating demonstration project and CCC camp work areas in Pennsylvania since 1935. Up to July 1, 1938, the Service had made conservation plans for 1460 farms involving 162,791 acres. Most of these have woodland and wildlife plantings, an average of 12,190 trees and 400 shrubs and vines having been planted per farm. In all cases wildlife conditions on the farm have been improved by various soil conservation practices, such as strip cropping, pasture improvement, hay land improvement, etc.

A total of 12,754,001 trees and 583,384 shrubs and vines have been planted during this time, covering 7,728 acres of new woodlands and 254 acres of small wildlife plantings. A large share of the woodlands planted have borders of wildlife plantings.

In addition, thousands of acres of existing woodlands have been protected from fire and grazing, and many have been put under proper management plans for the improvement of woods products production and wildlife as well as soil and water conservation. All swamps and other non-agricultural lands have been set aside for wildlife habitat and protected from fire and grazing.

In years to come these habitats will develop and the conditions for wildlife will be vastly improved on these Pennsylvania farms to the benefit of the landowner and the general public alike.

BE SURE YOU HAVE PROPER IDENTIFICATION WITH YOU WHEN YOU APPLY FOR YOUR HUNTING LICENSE AND WHILE YOU ARE IN THE FIELD. BE SURE YOU SIGN YOUR LICENSE

ALL HUNTERS ARE URGED TO MAKE A SPECIAL EFFORT TO ENCOURAGE THE GOODWILL OF THE LANDOWNER THIS SEASON BY EXTENDING EVERY COURTESY POSSIBLE TO HIM. MAKE FRIENDS FOR YOURSELF AND YOUR SPORT

LESSON TO REMEMBER

By STUART M. BOGGS

MY OLD HOME was deep in the Blue Ridge. At the turn of the century I was still a kid in knee pants, eleven years old. For three years my father had been teaching me how to hunt.

He was one of the all-time deer shots of the Blue Ridge. His kill over a period of some forty years numbered more than sixty deer.

My first year of schooling was spent as an observer. The second season I carried a single barrel shot gun of cheap make, 12 gauge, loaded with a "pumpkin ball." I carried five extras in my pocket. This supply MUST last the season—30 days of deer hunting. We were taught not to waste ammunition.

We did not get a deer the second season of my training, which was spent mostly still-hunting in the valleys. But one afternoon, on a cloudy cold day during my third season, a spike buck came down off Still House Hill, feeding along a bench near Birch Run. We were more than three hundred yards from the buck, which was browsing on teaberries and acorns. It was jittery at times, a blue jay or "ram rod" bird, as we called them, having spied us.

Father explained that the distance was too great for his 44 Winchester and my single-barreled 12 gauge pumpkin. With evening upon us, our best bet was to close in on him, through the laurel, cross Birch Run and up the ridge. Father thought if the buck winded or heard us he would break back over the hill, or across down by the old saw mill.

A cold, icy wind was blowing from the Northeast.

"Now you start over the bottom," my father directed, "keep that wind in your face, and make as little noise as you can. I'll go down by the chestnut tree and stand and wait at the saw mill. Remember your wind direction. Keep it a-blowin' in your face and be careful fording the run. Open your gun. What if you don't get a shot? Be CAREFUL! That old dead pine will guide you to about where he'll be feeding when you get across. Don't shoot until you see the deer, head, body and legs. And don't shoot in my direction. I'll be within two hundred yards of you, right down there"—father pointing to a clump of spruce pines that grew on a knoll near the old abandoned saw mill that some twenty years before had been a busy logging camp.

So, with buck fever creeping over me, I started after the spike buck. Upon reaching Birch Run, I broke my gun, crossed the stream and crawled up the steep bank to the first bench on Yellow Ridge. A bit winded, I sat down on the pine bristles to rest and give father time to make his stand at the old saw mill.

"Dad ought to be down there by now," I thought to myself, after a five minute rest. But before I could get to my feet, the brush cracked to my left. I could see something moving in the thick pine oaks, not more than forty yards from where I sat back of a small spruce pine. My heart beat must have risen to 130 and my blood pressure to 200. "That's the buck" I almost said aloud.

Then all was still. As I slowly rose I could hear my heart beat against my leather jacket. For ten minutes I never moved—it seemed a year—as I waited, waited for the buck to move to an opening where I could be sure it was a deer.

Again the brush cracked and, kneeling, peering under the spruces here and there I saw an object—but was it the deer? I wasn't sure, although several times I thought I saw the top of his back, move in a clump of oaks, the brown leaves blending with the winter coat of the spike buck. Motionless I stood, while a cold, clammy sweat broke out on my forehead and my hands got painfully cold.

I could hear him walking in the dry leaves, moving toward my father on his stand at the old mill. They became faint and finally all was quiet.

It had been agreed that should neither of us see the deer, father would whistle for me to come down to him. After silently standing for more than fifteen minutes I heard my father's call. I knew it was then too late, with dusk setting in, to be able to distinguish a deer more than twenty yards away, even if I did run into him.

So, when I got near to where father told me he would be, I heard men's voices.

"Well, son, I guess we missed the 'spike' that time," said father as I came out in an opening. "Where did he go?"

"I don't know where he got to; but I saw him all right—right back there in the pin oaks on that bench where we first saw him from across the bottom. I almost shot him when I saw his back and the brush move. Couldn't make out for sure, though. Gee Dad, was my heart pumpin' while he was walking around in the brush. Seemed like a year, and I got a sweat all over me, sort of a cold, sticky sweat.

"Ha! Ha! Buck fever my boy. But I think you will make a careful hunter. I am sure glad you didn't shoot. Never, never point your gun at anything unless you know what it is. Always wait until you see your game from head to foot. Suppose you had shot at that moving object back there?"

"Well, I didn't, did I? Say, who were you talking to a few minutes before I got here? I heard men's voices?"

"Why that was Charley Corgins. He came over the hill to take a short cut out of the mountain. That was Charley Corgins you heard and saw, and not the spike buck. Just think, think my boy what a pumpkin would have done to Charley."

"Well, I didn't shoot, did I?" was all I could say, or think.

Then as an after thought, "why did he wear brown clothes that look so much like a deer. Why doesn't he wear some bright color so . . . . "

"But do you, or I, or any of the other hunters wear anything but khaki?" father broke in.

"Young man I hope this is a lesson for you. I am satisfied my training has been worth while, otherwise we would have a dead man or a badly crippled hunter on our hands instead of a spike buck that you thought you saw moving in the brush.

"Come on, lets go home. Its getting dark and I'm hungry. Three miles to walk, too."

So that night when I went to bed, tired and nervous, still thinking of what might have been a tragedy in the woods with a hunter's life on my hands, my father came to my room, and patting me on my back said:

"Son, I am proud of you. Go to sleep now and forget all about your first chance at shooting a deer. Always WAIT until you SEE what you are shooting at. Never shoot at an object in the brush, or anywhere until you are positive. Let us pray."

CROW SHOOTING

By J. V. Williams

Some years ago a gentleman with whom I was then only casually acquainted, called at my home one evening. He knew that I was fond of hunting and we immediately became involved in an interesting conversation having to do with shooting in a general way. He later inquired whether I had ever done any crow shooting. I told him that my experience had been limited and my success even more so. It then developed that he was a member of the Upland Crow Club. When he began telling me something about the number of crows they were killing I stopped him, I expect rather rudely, and asked that he invite me to join him on his next outing. He said he would do it. True to his word he did. Three of us went out on a Memorial Day shortly thereafter.

I soon found that I was completely out of shells and then for the first concluded that he had told me the truth. The records since that time indicate that this group of real sportsmen kill several thousand crows each year. The most successful year to date was 1936. Accurate records kept show that 5410 crows were killed. Of this number three of the group bagged 3533.

During the winter months crows are shot principally from small corn-fodder blinds by the use of crow decoys and an occasional mounted great horned owl or a hawk of large species. The best shooting takes place when snow is on the ground and by locating your blind near a piggery or some equally good feeding place, or in line of their flight. The highest score for a day's shooting from a blind for an individual is 120.

The spring and summer shooting is different in that we drive from woods to woods concealing ourselves in the foliage using mechanical crow calls, principally the Tom Turpin or the Perdew. The largest number of crows killed in one day by one man by this method was 93.

Crow shooting is a fascinating sport and in addition to this it helps to keep the crow family under control and reduces their destructive habits to a point at least. The motivating man-power in the Upland Club consists principally of Joseph Price, Sec. and Harry M. Birney, Jr., Pres. They are a pair of fine young hustling fellows who are dead shots and marvelous entertainers.

THE CARDINAL

By DR. GEORGE MIKSCH SUTTON



THE gorgeous male Cardinal inspires admiration and comment wherever he is seen; his brilliant color, high crest, and assertive song proclaim him a prince among the feathered folk—and that hardihood which braves the northern winter makes us proud to call him American! He is a child of the tropics who has wandered far; but he seems to like his wintry surroundings well.

Both male and female Cardinals are high-crested and have pink bills; and both birds sing. Some observers say that the female bird produces even sweeter music than the male. The color of the female is dull grayish brown; but there is a glint of red on her crest, wings and tail, and her gaily-colored huge bill gives her a jaunty appearance. The huge seed-cracking bill of this bird is evidence of their relationship to the Sparrow tribe; and the Cardinal may truly be called a "grosbeak."

In Pennsylvania the Cardinal does not have a State-wide distribution. In the western counties it occurs as far north as Erie; in the mountainous regions of the central part it has extended its range along the favorable river valleys and is found as far north as Huntingdon; in the eastern part it occurs chiefly only in the southern counties. Few people are aware that the Cardinal is with us the year around. Some think he is only a winter bird; others know him chiefly as a summer nester and are amazed when they see one in the snow! He is a good example of a permanent resident, and rarely goes far from the region where he was reared.

The nest of the Cardinal, which is firmly built of weed stems and dead portions of vines, is not a bulky affair as a rule, and is lined with grapevine bark and rootlets. The eggs, which nearly always number three are white flecked with gray and brown. The young birds have crests in their immature plumage, but are not as bright as their parents. Young male birds, which are changing to the plumage of the adult are queerly and beautifully mottled with grays, browns and rosy red.

Cardinals are eaters of weed-seed; but are fond of fruit, berries and insects during the summer, and the young birds are fed largely on insects. Considering the beauty of song and plumage, their good food habits, and their desire to be near human dwellings, the Cardinal is one of our most highly prized birds, and worthy of the greatest protection.

In winter they may be attracted to the food counters by cracked nuts, various grains and sunflower seeds. If there is a thick shrub or vine on your premises the birds may be so attracted that they will nest near the house.

THE HUNTER'S CODE

(Continued from Page 7)

ported special for the occasion) and food and drink for man and beast. Obviously, he's Captain—not only because he owns the cottage, but also because he knows that territory, as we know the flat fields where we usually hunt.

Now the point about all this is that, except to keep that fire roarin' to bring in some wood, or otherwise to make us more comfortable, you'd never know he owned the cottage. And of course the two to six men who compose this annual party, do all they can to keep him feeling like one of the gang—also to lighten the load which inevitably falls to the lot of the Captain. During the actual hunting, we look to this man to pair us off, lay out our courses, and arrange for a time and place of meeting. And we follow his quiet suggestions to the letter. That not only makes for a pleasant party, but it also reduces to a minimum the chances that some of us tenderfeet may get lost. For I can understand that a November night in the Pennsylvania mountains could be pretty unpleasant.

I speak of our being tenderfeet. That's true, at least in the mountains. But by no word or gesture does our experienced yet considerate Captain imply this. Up a steep mountain, he tempers his pace to ours. And if one man or a hunting pair are late in arriving at a prearranged spot, neither then, nor later, upon return to the cottage, is there either any petulant criticism or raucous kidding about being slow or even lost.

Haven't you observed that native outdoorsmen seldom have a superior air? They're more likely to be on the modest side. Yet, let your ear get frozen or stuck in the mud, sprain your ankle, hesitate about dressing out a deer or for that matter, miss a grouse that's heading their way. And the speed and ease with which they do the job is often poetry in motion. Here's a glass raised high to 'em. And in locker room, office, or afield, may I always be as good a man.

I mentioned kidding. Beginners, handle it with gloves. Maybe when you attain proficiency in the field, you can get away with it and still have friends who want to hunt or fish with you. But I'm warning you. Notice the old hunter. He generally has a pleasantry, maybe a mild bit of joshing. But it's brief, to the point, and then dismissed. If I start riding one of my buddies, I must prepare to get it back. And if I keep it up, there's no telling how far it will go, nor what the final result will be. And if I'm not included in the next trip, it will serve me right. I've got it doped out this way. In the showers, at the office, around the lunch table, our actions, either good or bad, don't stand out in such strong relief. There are so many distractions—so many physical or mental escapes. But when we hunt, there are just the men, the dogs, the fields, the woods, the sky. Thus a blade of grass, a twig, the point, the flush—all take on great significance. And our own words and deeds stand out bold and bright. So too, at night around the fire. Dishes washed, tired dogs dreaming and twitching, pipes going, each of us glad with the peace of today, the hope of tomorrow. Outside, a stream murmurs to the tall trees that guard our cabin. The trees nod and keep the watch. Tonight, there's nothing but nature. And what we tiny humans do or say looms clear in the smothering vastness.

That reminds me. On a marsh, in a sere field, have you ever taken a deep breath and felt that you were standing right on top of the world, that you were holding the great friendly hand of one of the red gods? And with the next breath, have you felt just about the size of the ant that's near the toe of your boot? Well, when I get such a spell, it's kinda like church. Mind you, I don't recommend this as a substitute—rather as an aid to get the most out of church.

But here I go rambling. And when a fellow starts to ramble, he'd better haul to or quit. A couple more thoughts, and I'm through. If kidding should be handled only by experts, then practical jokes should be pulled only by masters. For they are frequently cruel, and always cowardly. A kidder at least offers a chance for verbal retaliation. However, the joker not only attacks an unprepared victim, but leaves him with no redress. Practical jokes, if they must be pulled, should be kept out of field and cabin. For the hours afield are too infrequent, too dearly bought, to have them marred, if not totally spoiled, by the thoughtless and sometimes harmful prank.

There are a lot of other people that we could mention. There's the fellow who is always criticizing, the chap who sometimes at risk of life itself wants every shot. We know what a blind pig is. But the blind hog is my own name for the man who not only takes the best duck blind, but the best seat in that blind. And there's the guy who takes the best seat in the boat—the best strip in the bird field. But why go on? There are scores more. Yet in the entire list, there's hardly a man who wouldn't measure up if he rated himself by the Golden Rule. It may not solve every problem. But it's a big help to the fellow who's just starting to worship the red gods.

And now in closing, I'm wondering what you think of me. A long faced blue-nose who's always taking the joy out of life?

I have a few friends who will tell you that picture doesn't fit. Include me on a trip sometime. I'll salute John Jameson with you. The night before, I'll brag about my dog. And the following night I'll lie like a trooper in defense of his and my mistakes afield. I'll brag about my exploits in the bush, tell a couple of tall tales, stay up too late, talk too darned much, and possibly, do a lot of the things we've just been discussing. For, like you, I'm human.

As I said at the outset, what I have aimed to do is to help the newcomers off to a good start. I know that reviewing these things has been a benefit to me. And if you feel the same way, then I shall be like Clarence (or is it Claude?): "Happy about the whole thing."

PITY THE HUNTER'S WIFE

(Continued from Page 14)

"What is it?" Ken was all interest.

Fritz kneeled down and opened the box.

"'Coon!" And he drew out the awfullest looking thing imaginable!

And 'coon it was, fully skinned and dressed excepting that all four paws were left intact. Where the head had been there jutted out a great thick bloody neck which I fervently hoped wasn't drippy! All the former aversion I'd ever felt for wild game came bounding back double strength. If rabbits had ever looked feline to me, this animal looked like a beheaded collie!

The two men stood there admiring the dead beast. They patted it, poked it and studied its toenails. They turned it over and upside down. It was, they said, exceptionally large and very fat. Then they looked at me and I started to wilt.

Fritz's wife, it seemed, was out of town. Could *I* round up our gang for a big 'coon dinner?

I spoke right up with a dozen good reasons why I couldn't possibly cook a 'coon, but when Fritz departed, the 'coon remained. I phoned the gang and invited them over.

Next morning, with many forebodings, I reached for my cook book. Fritz had assured me my task would be simple. "Just follow directions for roast turkey," he had said, "you can't go wrong."

"Select a young turkey," advised my recipe. "If not already removed, cut off the head and feet. Loosen the skin from the neck, push the skin back and cut off the neck close to the body. Remove pinfeathers—" I counted to ten and began to make stuffing.

Of course I wiped the meat with a damp cloth before inserting the dressing, and just as I thought everything was ready, I discovered something queer inside that 'coon. In consternation, I flew to the telephone.

"Kenneth," I panted, "didn't you think this 'coon was dressed ready to cook?"

"Yes, isn't it?"

"Well, there are two things inside that look like they might be kidneys."

"Then maybe they are."

"Well, do people leave them in or take them out?"

"Some do and some don't."

There are times when I wonder why I ever married that man.

"What," I asked sourly, "do you think I should do?"

"Better yank 'em out."

I boiled over. The idea of his sitting away down in his office calmly telling me to "yank out" a pair of 'coon kidneys in the same tone he'd tell a child to pick a strawberry—! If he'd been the only one coming to dinner, he'd have found that 'coon in the ashcan by the alley.

But, with Florence and Deacon coming, Zella and the others—.

I took a knife and gingerly approached a kidney. To my great surprise it came right out!

From that moment, my affection for Mr. Racoon began to grow. By the time I had him stuffed and sewed and browning in the oven, I was as proud of him as if I'd been his mother.

Our guests sat down that night, half dubious, half expectant, but they stayed to pass the platter 'round and 'round. Not a morsel of 'coon remained uneaten.

Of late, looking back over my eight years of married life (which, because I am annexed to one of the ten million, means eight years of rabbits and such) I feel I have managed to keep pace with my husband. But, wait! I foresee some unsavory stewing if he ever brings home a crow!

THE WARDEN'S JOB

JOE hung up the telephone receiver with a smile. "Well, Al, it looks like we might get some hunting after all. Warden Hill just told me of a couple of covers where he's seen plenty of birds."

"Warden? You mean to say that was the game warden you were talking to. Say, I never thought they'd help you out. All they do is snoop around and try and find some excuse to pull you in and slap on a fine."

"What makes you think that, Al? Did you ever have any trouble," asked Joe.

"No, sir, not I. Whenever I see a warden coming I make myself scarce. They're always asking questions and prying into your private affairs."

"Did you ever talk with a warden, Al?"

"Well, no, but that's what a lot of the fellows say, so I just steer clear."

"You've got the wrong slant on the whole thing, Al. How do you think Warden Hill would be able to tell us where we might find some birds if he hadn't been on the job checking up on the other hunters? A warden's job is to help every law-abiding sportsman in his district and to hop on every violator with both feet. We should thank him and help him every chance we get. When a warden comes along and asks to look at the contents of your game pocket or creel he's not accusing you of exceeding the bag limit. Nine times out of ten he wants to check up on the condition of your game; whether it is fat and healthy, or undernourished and diseased; whether a bird or fish is a native or one that has been stocked. You might not be able to tell these things yourself, but the warden can. All this information goes into his monthly report to the conservation commission and they in turn are able to determine the status of game which covers and streams need conditions throughout the State; stocking, which ones should be protected; whether the birds in a certain locality are getting enough feed; whether the fish in a certain river are spawning. You see, Al, the game warden is to your State conservation department what the soldier is to an army. He goes into the field and does the scouting—and the fighting."

The sportsman who can't do anything else to further the cause of conservation should at least cooperate with his local game warden. Take a tip from Joe and get to know the warden and have him as a friend.—*Hunting and Fishing.*

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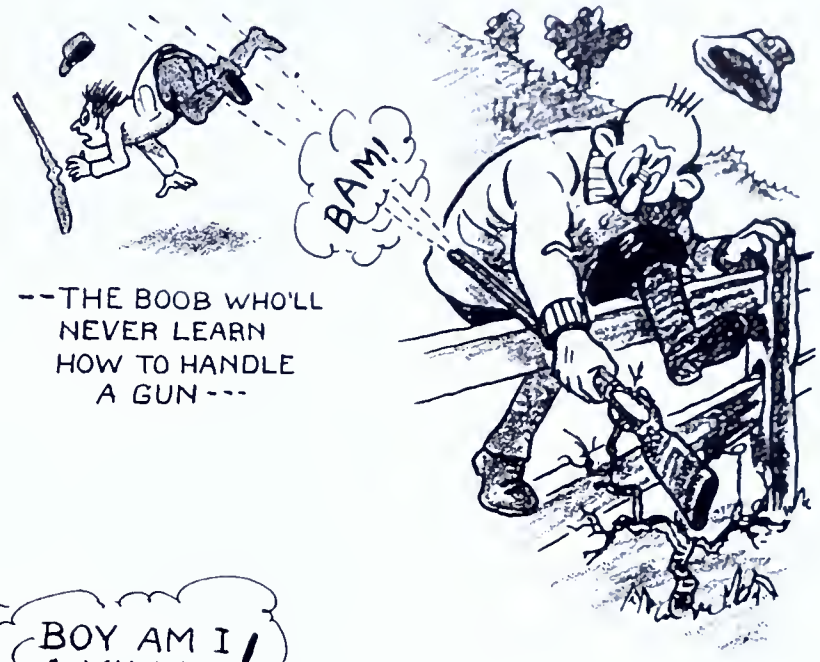
Q. How does Mother Wood Duck remove her young from her aerial nest? (Wood Ducks commonly nest in cavities in trees.)

A. She does not remove them. The young clamber out themselves and manage to crawl, more often falling, however, to the base of the tree. Their little toe nails are very sharp so that they can cling readily. Richard Rauch, Director of the Harrisburg Zoo, told me that repeatedly he saw young Wood Ducks crawl from the nest and try to climb down the tree, invariably falling most of the distance, where they would lie on the ground, apparently unconscious for moments at a time; then, all of a sudden they would scramble up and waddle away as if nothing happened.

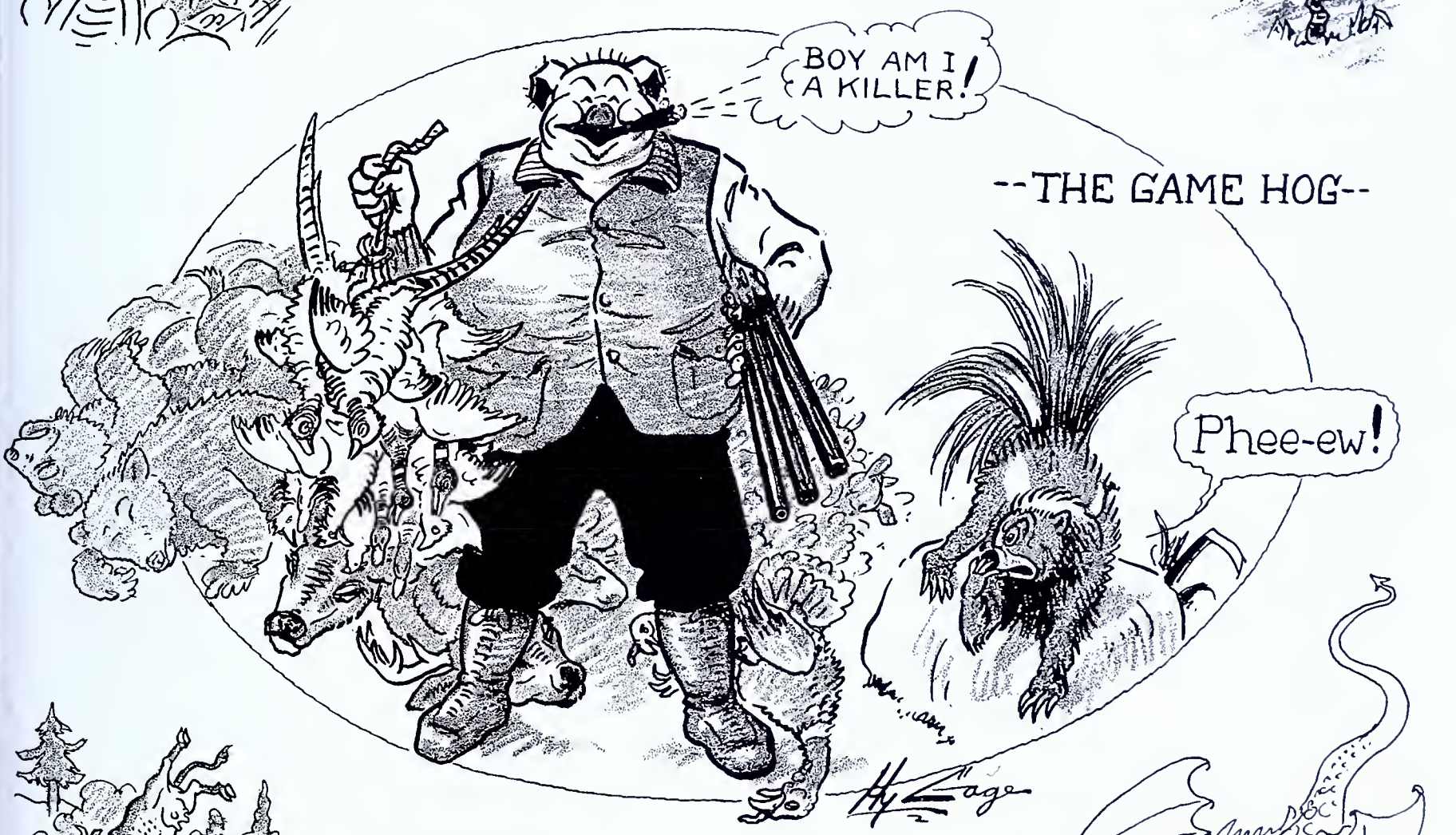
THINGS PENNSYLVANIA CAN DO WITHOUT



--CAMPERS WHO ARE CARELESS WITH FIRE--



--THE BOOB WHO'LL NEVER LEARN HOW TO HANDLE A GUN---





--THE HUNTER WHO SHOOTS FIRST AND INVESTIGATES AFTERWARDS--



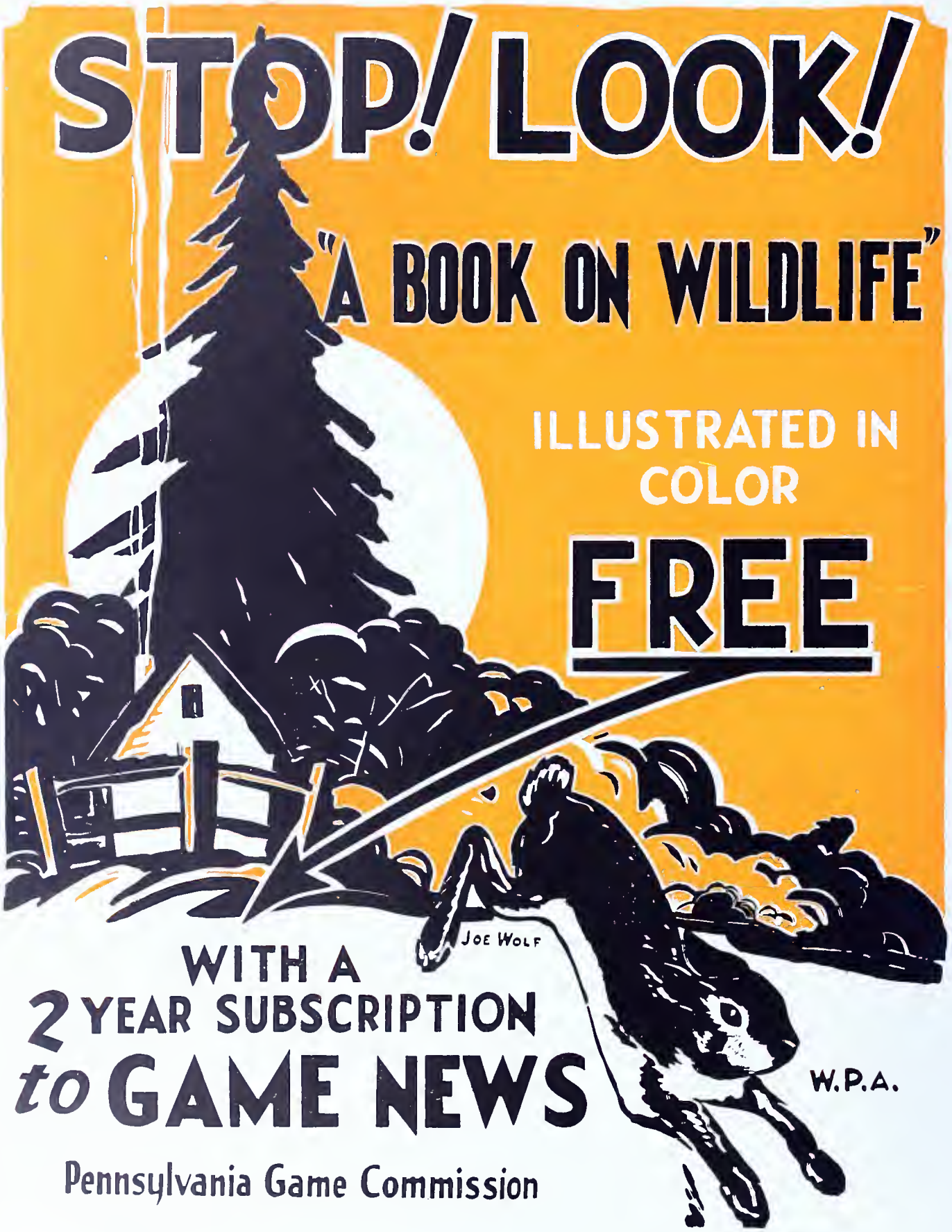
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Published monthly at Front and Reno Sts., New Cumberland, Pa., for Pennsylvania Game Commission, Harrisburg, Pa.
Executive and Editorial Offices, Commonwealth of Pennsylvania, Pennsylvania Game Commission, Harrisburg, Pa.

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Entered as second class matter at the Post Office of New Cumberland, Pa., under Act of March 3, 1879.

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Take Care, Young Fellow

Just a minute, Brother Nimrod, afore you're on your way,
For it isn't very often this old-timer has his say,
Advice is often tooken, but forgotten in the hunt,
So heed a word of wisdom from this rabbit-chasin' runt.
A gun is mighty handy when a pheasant's in the air,
Or Blackie Bruin is heading for the safety of his lair,
But that old shootin' iron is a tombstone in disguise,
If a fellow doesn't watch his step or thinks himself too wise.
A fence is built for safety until gunners take the trail,
And then the thing's as deadly as any darn third rail,
A shiny huntin' rifle fills a gunner's heart with glee,
And little tots will crowd around to see it on his knee,

But mark my words, young feller, that rifle brings dismay
When kiddies' little fingers upon its trigger play.
Don't point your gun at buddies just to feel its hidden might,
For Death makes no exceptions of a gunner's oversight.
Don't say it isn't loaded when it's handled by a friend,
Make sure the breech is empty, or your friendship ties will end.
Hold tight that trusty rifle, it will stand you in good stead,
When in the forest brush appears a deer's majestic head,
But drop that gun upon the ground or bump it on a post,
And you will never see again the ones you love the most.
So take a tip, young feller, from a rabbit-huntin' runt,
Take care and you will long enjoy the glories of the hunt.

By Had Dison,
Evening Public Ledger—Philadelphia.



PENNSYLVANIA'S PROBLEM

Vol. IX, No. 9

EDITORIAL

December, 1938

THE deer problem in Pennsylvania has been a subject of controversy for a great many years, and although the Game Commission has employed every means at its command to remedy it, all remedial steps have met with opposition of one sort or another.

When the deer problem first became acute back in 1923, farmers and orchardists were loud and profuse in their appeals for relief. However, the Commission was forstalled in its efforts to grant that relief by sportsmen who, for obviously selfish reasons, gave no thought whatever to the landowner or his crops, insisted on buying the special licenses allocated to certain townships and parts of townships in the South Mountain district of the Commonwealth, tearing them up and flinging them to the four winds in order that no reduction in the herd could be made.

Subsequently, when the deer problem became still more acute and more widespread, and when farmers and landowners, hard pressed as they were, demanded reparation for depredations to their crops and orchards, sportsmen again voiced their protests.

Other methods were employed to reduce the deer population, even statewide seasons for killing antlerless deer, but the animals continued to increase, and now they are found in every one of the sixty-seven counties of the Commonwealth. In at least twenty counties *there should be no deer at all.* Furthermore, contrary to the belief of those who opposed the methods employed by the Commission, the kill of legal antlered deer from year to year maintained a constant level and even continued to increase.

Today the Commission is faced with more vital problems effecting its deer herd than at any time in the Commonwealth's history. Landowners in northern forested areas of the state literally have their backs to the wall. As a result of over-population, as many as 30 to 50 deer have been killed on one farm in an effort to save what few crops remain. These assertions are not idle chatter; they are factual. Records to prove their existence are available at the office of the Game Commission for any who care to verify them.

Almost 1,000 deer were killed by farmers to protect their crops and orchards during September alone. The figure for October will no doubt run even higher. The tabulation for the deer killed for the first nine months of 1938, published in the last issue, gives concrete evidence of the fact that drastic measures must be employed if any relief whatever is to be afforded the landowner.

The question has been raised, "Why not trap out surplus deer?" The answer: The Commission tried it, but the task was laborious, the cost prohibitive. The question has been raised, "Why not employ certain 'experienced' hunters to shoot out the old barren does?" The answer: How many hunters in Pennsylvania are qualified to recognize an old barren doe? And if such an attempt should ever be made, picture if you can the pressure, and the jealousies, which would be brought to bear upon the Commission in connection with the selection of these 'experts'. Try to visualize also the tremendous amount of time and the cost involved. Also, what would the Commission do with 50,000 or more deer carcasses?

It is true there are some sections of the Commonwealth where deer are not as plentiful as they are in others. Thank goodness this is true in the agricultural sections, where the deer have no right to be anyhow. However, if sportsmen are to be influenced by sentimental reasons arising from the knowledge that deer are just beginning to establish themselves in their particular community, regardless of whether those communities are natural deer habitat or not, how long will it be, we wonder, ere the same conditions exist in those sections as now prevail in many others.

As already stated, wild deer are found in every county of the Commonwealth. Of course, it goes without saying that they occur only in limited numbers in thickly populated sections. Nevertheless, they are there. The reason? Simply because the herd has increased beyond its natural food supply, and has spread far beyond its normal range. But again the question arises from certain sportsmen, "What has the Commission done to increase the food supply?" The Commission has done much in the way of improvement cuttings—thousands of acres of them—but it cannot accomplish the impossible. What it has taken Nature years and years to create Man cannot undo in a few years.

The crowned canopy of our forests cannot be thinned out overnight. The 13,000,000 acres of forest land in Pennsylvania cannot be so regulated as to adequately provide enough food for the present herd of deer within a comparatively few months. In the interim what will occur? If Man does not take a toll by regulated hunting, Nature will. What Man does not kill humanely, Nature will take through starvation or disease. Some hunters say both sexes are shot under anterless seasons—even fawns, many of them bucks. That is true. But which is more merciful? To have these creatures come to an early end by a rifle bullet or by the horrible tortures of lingering starvation and disease which follow in the wake of over-population and food scarcity?

The question also arises, as it has always arisen before, "Why make the season statewide? Why not confine it to certain counties?" The reason: When a season is confined to certain counties there is invariably an influx of hunters into those sections; and if ever a wiping out of any particular species is invited, it is then. Again, "Why not limit the number of hunters who go hunting in these particular counties?" And the answer is, because the sportsmen have always protested the issuance of special deer licenses, though the plan may be sound.

If the sportsmen of Pennsylvania would only have faith in what the Game Commission is trying to do; if they would only look back over the last twenty-five years and take stock of themselves and of the Commission, they would find that very few mistakes have been made. Naturally the Commission is not infallible, but it has tried all of the things that have been suggested and it has found them not only inadequate, but expensive. Through wise regulation the Commission has been able to furnish excellent hunting for the sportsmen of Pennsylvania for many, many years—such good hunting, in fact, that it has made many other states envious of her record. Despite this enviable reputation, however, it is apparent that some of her own sportsmen are not supporting the Commission's endeavors.

It is not easy to practically apply seasons and bag limits to meet the requirements of over 600,000 hunters. Likewise, it is not easy to appease the continued demand of hundreds, yes thousands, of landowners who are constantly suffering from depredations by deer; and whether or not deer are prevalent in certain counties of the Commonwealth today is no reason why they will not be prevalent tomorrow. These animals increase rapidly, and soon reestablish themselves. Furthermore, if some hunters are of the opinion that the animals are too scarce in their particular section to hunt this year, *they themselves can refrain from hunting them and encourage others to do likewise.*

The fact that the season is open does not say that it is compulsory for every hunter to go out and shoot a doe, particularly in the section where he thinks they have been thinned out enough already. However, he can, and *it is his duty to try to help reduce the number of deer in those sections which he knows are over-populated.* One reason a statewide season on antlerless deer was declared was to eliminate certain objectionable regulations. By so doing the Commission felt it was acting in the best interests of all the sportsmen. At the same time the Commission believed that the sportsmen in turn would make a strenuous effort to confine their hunting to those outlying rural sections adjacent to forest areas where deer are plentiful and where farmers and other landowners are suffering such tremendous damage—not in those sections where there are only a few. They believed that the sportsmen would cooperate to the end that the affected areas would be satisfied and their own areas regulated.

If the sportsmen of Pennsylvania uphold the Commission on a policy of this sort two purposes will be served—the herd will be reduced in all the sections where it should be reduced, and regulated in all those sections where it should be regulated. And no harm will be done whatever.

THE GOVERNOR ON CONSERVATION

Address delivered by Governor Earle at the dedication of the Pymatuning Game Refuge and Museum, Oct. 15, 1938.



Interior of Pymatuning Museum. Note cases of mounted birds.

IT IS with a keen sense of satisfaction that I am here today to dedicate this Game Commission Museum and wildlife sanctuary, which is an important part of one of the greatest conservation achievements ever undertaken by the Commonwealth.

The basic benefit of Pymatuning Reservoir lies in its function of equalizing streamflow of the highly industrialized Shenango Valley communities which depend upon its waters both for domestic and industrial water supply. Today, we are concerned with a bi-product of this project—a phase which is both near and dear to my heart. This bi-product, of interest to so many millions of our people today, has to do with the restoration and perpetuation of wildlife in general, and with migratory waterfowl in particular. This great national resource, decimated by overshooting and destruction of environment during the past century, now bids fair to be reestablished by wise federal shooting regulations, and by recreation of suitable nesting and resting environment such as is offered by Pumatuning Reservoir and its game refuge of 3,670 acres.

In consummating a policy for the multiple use of Pymatuning Reservoir, I welcome the opportunity of paying tribute to the legislatures of both Pennsylvania and our good neighbor, Ohio, for their splendid cooperation in enacting a compact fully governing these uses; the Pymatuning Conservation Association, the Pennsylvania Federation of Sportsmen's Clubs and the Izaak Walton League of America, and other non-partisan civic organizations for the many helpful suggestions which they have submitted.

These are days of highly controversial discussion relating to the social welfare of our people.

Many of the problems confronting us today demand immediate attention—a prior right of way, as it were—yet it cannot be denied that the greatest *long term* problem confronting the State and Nation today, is that of adopting an orderly and progressive plan of conserving our renewable natural resources, such as forests, waters and wildlife. Forests and waters are a basic necessity of all life. Wildlife is a rather definite barometer of the ability of our land to support human life, while the added value of wildlife from a social, economic and aesthetic viewpoint is incalculable.

Let us try to find a modern definition of the word "Conservation." Surely, its practical application is not covered by Webster, which merely indicates a hoarding of resources. Our renewable natural resources—forests, waters, wildlife—belonging to the people. These fundamental resources—the basis of all life, happiness and wealth, must not be dispensed for the private gain of the privileged few. The modern conception of conservation as I see it, is a long-term plan of public use of natural resources on a perpetual basis. There is within the great majority of us an inherant desire to participate in those wholesome outdoor pastimes of hunting and fishing; it is a logical governmental function to improve and perpetuate facilities for association with the great out-of-doors, whether it be in hunting, fishing, nature study or just plain contentment, is immaterial.

Other generations were guilty of shameful waste of our natural resources; vast forests were ruthlessly destroyed for private gain; most tillable areas have been worked down to the very bone; wildlife has been decimated, and some species made extinct; uncontrolled commercialism turned public waters into private sewers, sounding the death knell of the major portion of our fishing resources.

Pennsylvania has pioneered in game and fish restoration by means of its two special funds established for this specific purpose. These funds, supported entirely by the sportsmen, are financed by licenses which are in no sense a tax, but a voluntary contribution in the cause of improved hunting and fishing. For that reason it is with some amusement that I look upon the recommendations of those who consider the "abolition of the fishermen's license." Such a statement could arise only from one ignorant of the purpose of the fishermen's license.

Four years ago, I pledged to the sportsmen of the State adherence to two great principles in the administration of their affairs; First, a strictly non-political wildlife policy; second, the preservation of the Game and Fish funds. As one of the contributors to these funds, and as your Governor, it has indeed been a source of satisfaction to have fulfilled those pledges, and to note the great strides made by the Game and Fish Commissions during these four years.

The modernized Game Code of the 1937 Session provides for immediate dismissal of any employe who engages in political activity; it provides selection of personnel on a merit system, with intensive training of the field force to fit them for efficient service. Added safety factors for both hunter and landowner are provided, while the whole code has been rewritten to meet modern conservation needs. In Game administration, the new farm-game program is opening up many areas heretofore closed to hunting and provides for a better understanding between sportsmen and their hosts, the landowners.

An extensive program of food and cover development, based upon sound research, is the foundation of better hunting for the future, while output of the State Game Farms has reached an all-time high. Our Fish Commission, too, has kept pace by greatly increasing the capacity of its hatcheries and modernizing its fleet of trucks which is used in distribution. A wise 1937 legislature granted to the Fish Commission the power to establish, on its own initiative, seasons, size and creel limits and other regulations for the betterment of fishing.

No doubt the most important conservation legislation of modern times was the Pure Streams Act of 1937, which recognizes the biological and recreational values of water, and is generally conceded to be a model in anti-pollution legislation. That group which has for many years of adversity, championed the cause of pure streams, is to be congratulated upon its signal victory, yet I must warn the over-enthusiast that the mere enactment of a law does not represent the eventual. The redemption of our streams is a long time program, requiring a forceful and ever vigilant administration of the law.

The very worst stream pollution existing today is in the navigable waters of the nation. Interstate streams, like interstate railroads, are no respecters of man-made political boundaries. They deliver their ever increasing cargo of pollution to the next user down-stream, all charges collect.

Congress has wisely legislated to protect navi-

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HELL AND HIGH TIMBER

By COREY FORD and ALASTAIR MacBAIN



Pa. Dept. of Forests and Waters

Reprinted from "Conservation" as condensed from "Colliers"

"OUR forests," states Mr. George Spelvin to his wife, exhaling a cloud of cigarette smoke and waving his arm expansively at the surrounding scenery, "are a priceless heritage. We must cherish and protect them. And now, my dear, if you'll get the children back in the car, we can get in another hundred miles before supper."

And flipping his cigarette butt casually out of the window of the car, Mr. Spelvin settles himself behind the wheel, reaches for the gear-shift, and the sedan rolls on its way once more; and that is the last we see of Mr. Spelvin. . . .

It is not the last we see of Mr. Spelvin's cigarette. Hidden from the road, it has landed on a heap of brown pine spills, crisp and dry as powder after two weeks without rain. It continues to burn on down to the end, and gradually the needles surrounding the live coal twist and begin to grow black.

A sudden puff of wind flattens the coil of cigarette smoke, and the circle of needles grows brightly for a moment. When the wind stops, the spiral of smoke rises again, a little heavier, and the rim of the circle stays red.

A second puff of wind, stronger than the first, picks up several glowing needle tips and scatters them across the littered forest floor. Here and there new coils of smoke arise, as the wind drops again, and a piece of dried bark begins to smolder like punk.

Five minutes later there is another sharp gust of wind, and the birch bark gasps and leaps into astonished flame. It rolls over, writhing with fire, and lands against a clump of dried brush that crackles and suddenly goes up in a brisk bonfire, spitting sparks. Other red tongues begin to lick silently at the surrounding pine litter. The circumference of the circle is widening fast.

Now the freshening breeze lifts the fire across a little gully, and grabs at the lower branches of a pile of slash and swings itself up hand over hand, clambering from twig to twig, reaching for the bigger branches overhead. The whole slash roars aloft, and a rabbit scurries out panic-stricken and bolts headlong before the rush of heat and strange, stinging smoke. Green shoots of second-growth in the advancing path of the fire pale and fling their arms aloft and wither into flame. The fire is running uphill now toward the big stand of pine on the ridge, riding each new gust of wind. The breeze has stiffened into a steady gale. . . . .

About this time, a lookout in a tower fifteen miles away spots the bank of smoke piling up in the southwest. He locates the column approximately by the alidade suspended over his map, and phones the nearest ranger station. "Between Swift River and Bald Summit . . . tough country back there . . . wind rising."

The dispatcher checks with a simultaneous report from another lookout ten miles to the west, places the fire exactly where the two air lines between the towers cross, and shakes his head. Black Mountain area. Little water available, many isolated ranches to the south. His danger meter puts the forest in the fifth hazard period—exceptionally low humidity—

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Pa. Dept. of Forests and Waters



Progress of the Commission's Program*

By SETH GORDON

ALMOST three years have elapsed since it was the writer's privilege to discuss certain suggestions with your honorable body when he appeared before you, upon invitation, to consider the advisability of returning to the post he had relinquished almost ten years previously.

During the intervening three years the Commission has functioned smoothly and efficiently; Governor Earle and the members of his Cabinet have cooperated and allowed the Commission to operate on a strictly non-partisan basis; the organized sportsmen have worked splendidly with the Commission; and a fine spirit of teamwork has been evidenced on all sides by the members of the Staff, both field and office.

All of the suggestions discussed three years ago have been put into operation, together with numerous other improvements, with the result that the progress of the Game Commission's long-term program has been very encouraging. A brief review at this time seems in order.

It was agreed that (1) an intensive management program be launched on the State Game Lands and Refuges; that (2) efforts be made to secure the cooperation of the Department of Forests and Waters to improve wildlife habitats on the State Forests; that (3) hundreds of smaller refuges be created primarily to enhance small game conditions; that (4) an effort be made to find a solution to the farm-game problem, especially in the southeastern and southwestern regions of the State; that (5) research work be expanded, and if possible a Federal cooperative research and demonstration project be established at Pennsylvania State College; that (6) an effort be made to develop among the Field Staff a better understanding of the elementals of environmental control as an important function of game management, so that our officers might instruct the public how best to assure maximum annual game crops instead of making law enforcement their only major consideration; that (7) the hundreds of organized groups of sportsmen be invited to shoulder a definite part of the responsibility by encouraging them to sponsor more local food and cover improvement and other projects; and that (8) the Commission's Training School program be broadened more completely to equip its field officers, and to develop trained men to fill future vacancies.

It also was agreed that a general reorganization of the Staff, especially in the field, be studied in the hope of effecting greater operating efficiency and economy, and to distribute the entire load more evenly.

Lands & Refuges—The recent developments in connection with the Commission's lands and refuges program have been especially significant. The Commission began buying State Game Lands in 1920. Up to June 1, 1927, the year the license fee was increased to $2.00 and 75 cents from each resident license was earmarked for lands and refuges, the Commission had purchased 92,640.62 acres. During the next 8 years, ending June 1, 1935, the Commission acquired 372,781.35 acres, or an average per year during that period of 46,597.67 acres. During the entire period from 1920 to May 31, 1935 the Commission's total purchases of 465,421.97 acres averaged 31,028 acres annually.

During the past three fiscal years the total area purchased aggregated 123,000 acres, or an average of 41,000 acres annually. On October 1st the Commission owned a total of 588,418.52 acres, with a very considerable additional acreage under contract for purchase.

The purchases recently have mostly been the more expensive smaller tracts, many of them old farm land, in sections remote from extensive forest regions, principally for small game. The Commission should now give further consideration to its future land purchase policy, as the management drain on its resources is becoming increasingly larger.

On May 31, 1935, the Commission had a total of 174 refuges of all classes, with an aggregate of 129,589 acres. On October 1st of this year we had a total of 261 refuges (other than those on the new Cooperative Farm-Game Projects), with an aggregate of 138,946 acres. The turkey refuge program started about five years ago has been further expanded, many of the old large refuges have been reduced in size, and a number of smaller ones established in the surrounding territory primarily to benefit small game.

Early in 1936 the Commission approved an intensive food and cover improvement program on its lands, and since that time approximately 10,000 acres have been undergoing such treatment. The net income through timber sales resulting therefrom to October 1 has aggregated $10,665.00.

Two years ago the Commission adopted a group management plan for all of its lands and refuges, thereby improving the general administration of these widely scattered holdings and doing the job more efficiently than was heretofore possible.

* A Special Report Submitted to the Pennsylvania Game Commission, October 5, 1938.

By undertaking this improvement program, nd establishing many more small refuge units, he Commission has not only increased the game arrying capacity of its own lands, but it has horoughly sold the value thereof to others who re now undertaking similar programs on their wn initiative.

Following a series of conferences, the Department of Forests and Waters is now devoting much more attention to improvement operations on the State Forests which will benefit ildlife.

Farm-Game Projects—Based upon preliminary studies of the problem in Pennsylvania nd various other states, the Commission in 936 launched a new type of Cooperative Farm-Game Program in twenty-one agricultural ounties, near centers of population, to test the easibility of plans to encourage landowners to ooperate in the improvement of game conditions, and to induce them to throw open to ublic hunting large acreages which heretofore ad been posted in these heavily hunted gricultural counties.

The response to this undertaking was surrising. Both the farmers and nearby sportsnen reacted most favorably, and up to October f this year a total of 71 such projects, in ighteen (18) of the twenty-one (21) counties, ad been signed up. The total area of these ooperative projects is 70,087 acres, more than alf of which had previously been closed to ublic hunting.

On these 71 projects, a total of 612 refuge nits, comprising 4,798.5 acres, or an average of lmost eight (8) acres each, have been stablished to date, with more to be installed rior to the hunting season.

The majority of the 832 farmers who have ntered into these agreements, under which the unting rights on their lands, many of which ad been closed to public hunting, are turned ver to the Commission for five or ten years, nd nearby groups of organized sportsmen are ooperating nicely with the Commission. The value of the projects is already showing up (1) through improved game conditions, (2) more and better public hunting grounds, and (3) practically no complaints from any of the landowners relative to abuses on their property from careless hunters.

Demands for expansion of this cooperative program to include other farming counties are increasing, and dozens of sportsmen's organizations are offering to help establish and improve such projects if and when the Commission's funds will allow the further expansion of the plan.

This undertaking, still in the experimental stage, has attracted nation-wide attention. It certainly constitutes an important approach to the farm-game problem, but much still remains to be done to secure the active aid of our 190,000 farm owners and tenants.

Research & Demonstration—The expansion of the Commission's research program during the past three years has brought much favorable comment from sportsmen and others interested. The furtherance of this work on a sound, practical basis will supply badly needed information for the Commission's future guidance and assistance.

The establishment, early in 1938, of a cooperative research and demonstration project at Pennsylvania State College, jointly sponsored by the U. S. Biological Survey, the College, and the Commission, will not only supply to the farmers of the Commonwealth, through their own extension service channels, additional badly needed information relative to easy ways and means to improve wildlife conditions, but will supplement the Commission's own research work. At the same time it will enable the College to offer courses in wildlife management to students who are prospective extension agents or farmers, or who desire to enter the field professionally.

Through this program the same channels which were largely responsible for the needless destruction of wildlife cover on Pennsylvania's farms will be used to encourage the restoration of that which has been needlessly devastated.

In this connection, the recent distribution of a special bulletin, "Wildlife in the Farm Program" has struck a most responsive chord. The demand for it has exceeded all expectations. Farmers and sportsmen alike are using the bulletin extensively, and it is the writer's opinion that the wide distribution of this publication is fully justified.

Jobs for Organized Groups—The Commission's efforts to enlist more active cooperation on the part of organized groups of sportsmen has been exceptionally well received. The Cooperative Farm-Game Program, the suggestions in the new bulletin just mentioned, the development of the Sportsmen's Rearing Pen, the wider distribution of day-old pheasant and quail chicks, the establishment and development of refuges and propagation areas, the trapping and re-distribution of native game, the planting of food plots with the Commission's special mixture, and various other undertakings recently sponsored by the Commission have given these groups something definite to do to improve wildlife conditions in their own community.

The further development of these cooperative activities merits the Commission's serious consideration. A working organization of sportsmen is a decided asset; a group organized solely for the purpose of securing more game from the Department for stocking purposes is useless. Every organization should have a real working program!

Employee Training — The Commission's Training Program as it is now functioning, presented in a preliminary way by one of your numbers in 1935, was formally adopted early in 1936 and put into operation immediately. The striking thing about this institution is not the fact that 50 of the officers now in the field were selected by competitive examination and graduated from the School, but the effect the

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Deer damage to planted Scotch Pines, Cherry Hollow Road.

Top: Type of sign used to designate the study plot area, Clearfield-Penfield road.

DEER DAMAGE STUDY PLOTS IN PENNSYLVANIA

By J. C. MIDDOUR
Dept. of Forests and Waters
and
JAMES N. MORTON
Pennsylvania Game Commission

IT HAS been frequently pointed out that an over-supply of deer leads to the destructio of the understory of tree growth necessary for the perpetuation of the forest and of th cover and food supplies so badly needed by the deer herd and by grouse and other small gam species frequenting forest areas.

In addition to the damage noted by deer in natural growth, in areas where the supply i greater than the normal carrying capacity, it has also been apparent for a number of year that there were considerable losses sustained to planted evergreen trees. This has been note both in trees planted by the Commonwealth and by private individuals, especially in or near th forest areas. In many instances the loss has consisted of practically the entire plantation o trees which would have afforded winter protection to wildlife as well as future timber supplies

In order to bring together accurate and reliable information and to help develop a bette understanding of this serious problem, the Pennsylvania Department of Forests and Water and the Pennsylvania Game Commission cooperated in a special study of deer damage, startin in the spring of 1929. In accordance with this cooperative plan, eight study plots wer established on four different state forests in Clearfield, Cumberland, Huntingdon, and Pik Counties. Each of these four study areas consisted of two one-acre plots. One of each o these two one-acre plots was completely enclosed with a deer proof fence 7½ feet high The other companion one-acre plots were left unfenced. Special care was used in th selection of companion plots to make certain that areas were selected with similar natura growth conditions and other factors that would affect tree growth. The eight plots (fou fenced and four unfenced) were planted with selected planting stock, the fenced areas wer planted with the same species and in the same manner as the unfenced areas.

The field work in connection with the project was supervised by James N. Morton, of th Pennsylvania Game Commission, and Richard M. May, of the Department of Forests an Waters.

The purpose of these plots was to provide the two cooperating agencies with specific an exact information as to just how much damage, and what kind of damage, are done to planted trees in widely scattered localities where deer are present. The fact that each plot purposely exposed to unrestricted deer browsing had an adjacent control, or check plot, provided tha there would be removed any possibility of other factors influencing final results.

The plots were established in the spring of 1929 and when completed were examined in May, 1929, to determine the percentage of establishment of the trees on both the unfenced plots, where browsing would be unrestricted, and on the fenced, or check plots, where deer could not enter. At intervals thereafter the plots were re-examined to determine the percentage of trees remaining on the fenced plots as contrasted with the number on the unfenced plots. Thus it was possible to obtain a fairly accurate answer to the question, "How much and how severely do deer damage planted forest trees?"

The most recent inspection of the plots was made during September, 1938 by J. C. Middour, of the Department of Forests and Waters, and Messers C. C. Freeburn and John R. Langenbach, of the Pennsylvania Game Commission.

Cumberland County—Two adjoining areas, one fenced, of one acre each were laid out in Cook Township on the north side of the Bendersville road, one mile each of Pine Grove Furnace. The plots are located on an abandoned field which was covered with grass and weeds. The aspect is southerly and the ground is level. The sites are classified as Quality I.

The two plots were planted with white pine, Scotch pine, Norway spruce and Japanese larch. In the examination of the plots made in September 1938, it was difficult to make an accurate count of the survival of the different species as they are now too large, and the branches have grown together in most places on the fenced areas. It was observed, however, that the planted trees have made a much better growth on the south side of the plot than on the north side, both in regard to total height growth and percentage of stocking.

The following average heights were observed on the fenced areas:

White pine	12 ft.	Scotch pine .....15 ft.	
Larch	14 ft.	Spruce	4½ ft.

On the unfenced area the trees showed quite evidently the effects of deer browsing since the establishment of the plantation. The stocking is poor and the height growth is not nearly as great as within the fenced area. The stocking or survival on the unfenced area is less than 75% of that on the fenced area. Scotch pine forms about 80% of the trees in this area, and there are very few white pine remaining.

The following average heights were observed on the unfenced areas:

White pine	4 ft.	Scotch pine	8 ft.
Larch	14 ft.	Spruce	3 ft.

Clearfield County—Two adjoining areas, one fenced, of one acre each, were laid out on the west side of the Clearfield-Penfield Road in Pine Township, one-fourth mile north of the Clearfield State Forest Tree Nursery. The area was in open brush land and prior to planting was cleared of all brush and debris. The species planted were red pine transplants, Japanese larch, Scotch pine and white spruce.

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Badly damaged spruce in plot on Clearfield-Penfield road.



Browsed Larches and Pines in the Sample Plot.

The Valuable Muskrat



At night the river is his broad highway.

By JOSEPH WHARTON LIPPINCOTT

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EDITOR'S NOTE: *We have graciously been permitted to reprint this additional chapter from the splendid little book "Animal Neighbors of the Countryside" and hereby tender our apologies to its author, Joseph Wharton Lippincott, for having named the book incorrectly in the first installment.*

WHEN I was a boy, the coming of the trapping season was always announced at school by the powerful odor of fresh musk which filtered through the class room as certain trapping enthusiasts among the boys would try to slip into their seats unobserved. They would be late for class because they tended their traps and hurriedly skinned their catch before leaving home; and so persistent was the muskrat odor that no amount of washing would remove it from the hands. Literally it had to wear off! It comes from two glands or sacs near the tail which are laid bare in the process of skinning the animal.

So many styles of furs are produced from muskrat that these animals, only about two pounds in weight, have gained great importance in the fur market, particularly as they raise two and sometimes even four families of young each year and therefore are very numerous in ponds, streams and boggy meadows. Like the beaver, this rodent has shiny long hairs mixed with the fine shorter fur; when these are removed, and the fur trimmed and dyed, the pelts, sewed together, can be made to resemble the seal's in a thousand-dollar coat, and several other fashionable varities such as mole and ermine.

On warm spring evenings I sometimes see muskrats swimming in the pools of the creek long before darkness settles down. They have burrows in the banks which open into the stream and also on the land; but they are really water animals and rarely leave its vicinity except in the early autumn when some of them go across country to find other streams and ponds. If one of them is met in his travels, he will stand his ground and be ready to fight. Indeed, he may do the attacking himself and give a serious bite on a man's leg. This is not because of an evil disposition but because, far from water, the poor rat knows he is not speedy enough to escape by flight and so should bluff it out and make himself look tough. When the sun sinks to the horizon an old one will come out of the burrow by way of the water entrance and remain perfectly still for a minute or two with only his head showing while he looks about and listens for enemies. Assured that all is well, he swims slowly to the far bank, climbs up on the stones and then walks up one of his well-worn paths until he reaches a patch of grass where he can dig up a mouthful of roots. Instead of eating at once, he carries them to the water where, frequently, he washes off the dirt in the same manner as the coon washes the blood out of meat and fish.

Trying to waylay and catch a feeding rat is an exciting experience because to do so you must somehow come between him and the bank. He dashes for the water on the same little path by which he has left it, and runs into you or between your legs. And a rat weighing two pounds and measuring nearly two feet is no mean adversary. If he reaches the water he is gone, for he dives and swims, well below the surface, until again in his burrow. The oily, long, outer coat sheds water and keeps it from soaking into the soft under-fur. A large part of the rat's time is spent in keeping the fur in good order. This he does by work with both mouth and feet.

In the spring and again in the autumn, the muskrats do considerable traveling up and down watercourses in their neighborhood, but when winter ice covers everything they stay near their burrows and do much of their feeding on roots of water plants under the ice where they are more safe from enemies. Sometimes when skating I come across a rat swimming underneath me. It is said that a lumberman sometimes kills one by hitting the ice above it with an ax and thus stunning the animal which can then be chopped out, but I have never tested this and do not intend to, for the interesting creature deserves a better fate.

Only the otter can outswim him in the water, for his hind feet are partly webbed and his tail, flattened on each side, helps wonderfully as a rudder; his little front feet are held against his body to keep them out of the way. But one enemy, the mink, is a particularly serious menace. While the muskrat can outdive this vicious water weasel, he can be cornered or surprised, and his young are helpless when the mink comes into the burrow and discovers them. The muskrat is such a fighter that occasionally an old one can defend not only himself, but also the baby rats.

One might expect a diving rat to get his

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Ethics from the Trapline

By S. V. SEDLAK

WHEN the cool days of autumn arrive there come with them, peculiarly enough, a period of transition in the woodlands. Especially does this vivid change manifest itself shortly after crafty Jack Frost has found his chance to blow his breath of cold air so nightly and yet so determinedly over every highland and vale. The brilliant green of summer gradually converts itself into an emblazoned canopy of a radiant rainbow-like array. The golden yellow of the maples, birches, poplars and the beeches, the crimson red of more maples, oaks, dogwoods and sumacs with added touches of intense purple and tawny brown,—in bold contrast with the emerald evergreen of plumy hemlocks and pines, truly, a pretentious display of pomp.

This seasonal transition, however, does not confine itself to just one phase; it goes deeper in its actions. The wildlife of the forest feels its effects and the fur-bearing creatures commence to wrap up into a heavier, a warmer, a more dense and colorful coat of body protection. Some undergo a complete color change, a protective measure which nature bestows; others commence to build their winter homes to shelter them from the wraths of a winter cold, and food is harvested and stored; still others commence to gorge themselves with nutriment because during the frigid weather they must hibernate and live through a period of comatose sleep.

During this time throughout the length and breadth of this commonwealth many a man prepares himself for a sojourn into the woods, or at least he thinks of it because the hunting season is nigh. The better-to-do fellows usually take to the mountain fastnesses where they share in a hunting lodge and there they spend their days of leisure. They enjoy their favorite sport—hunting. In many instances a dog is used because it is man's best friend and a dog is a companion, indeed, if success is measured in terms of companionship regardless of the outcome of the hunt.

In that same mountain fastness an inconspicuous trapper starts his operations. He has strung out, one here, one there, and in another place two, perhaps three traps, and so on, a line of foot-gripping steel, concealed in promising spots to catch Sir Reynard, the fox, the most elusive creature of the highlands. The hunter's dog, be it a beagle, a pointer of whatnot, possesses, strange as it may seem, the habits identically that of a fox. It will paw around here and there, it will be attracted by this and that, yes, even follow in precisely the same places as a fox does, and in the course of one of these meanders the dog steps into a trap.

In most cases, due primarily to the fact that the dog has a larger paw, it merely trips the trap and goes on, but occasionally it happens that the trap takes hold and after a little tugging, a dog frees itself; and rarely it occurs when the gripping steel takes on a firm hold. Now, if my dog would get fastened into a steel trap, rest assured, I would not like it. But gentlemen, there is no positive dividing line. Like I mentioned above, fox habits are dog habits too. The law permits the trapper to use steel traps in his pursuit after fox; the law permits your dog to pursue the game—fair and square to all concerned.



Thousands of boys trap in Pennsylvania, the muskrat and skunk falling easy prey to their skill.

Now then, we suppose a dog was actually, which rarely occurs, caught. What happens? That depends much on how broad-minded or narrow-minded the master is. If he knows his wildlife stuff, if he is a gentleman characterized with the precept of a sportsman, he naturally understands, and releases his dog with no ill-will towards his fellow sportsman. He will leave the trap lay, or will reset it or hang it up on a bush.

The law forbids the use of a trap greater than six and a half inches in jaw spread. A trap of this maximum size is a costly article and an amateur trapper cannot afford to buy and use it extensively so when a dog gets caught in one of these large-sized traps you may rest assured that it is the property of a "schooled" fox trapper—a master of the trapline. Furthermore, feel assured that the trap was placed only after careful precautionary judgment on the part of the trapper. Most certainly it was not his intention to set so that a dog would be caught. He uses his head for more than just a hat-rack; he figures his work out from every angle because his aim is to get what he desires most, and certainly a dog is one of the most undesirable creatures when one falls into his traps.

Fox trapping is in itself a distinct line of work. It differs from other trapline technique because it pertains to the craftiest fur-bearer that roams over our hills. It requires more skill, more care, more labor and more time to do the job to be successful. It is one phase of trapline work which includes many obstacles to overpower.

A successful fox trapper is a hard working fellow, one who has passed through the various stages of painstaking experiences. He has learned, but only after several years of endeavor, to know nature and the laws of nature as they belong to us of the Allegheny highlands.

He has helped immensely to keep in balance our wildlife status. Without him game conservation would gradually fall off and reach a point of alarm. Why? Because most fur-bearing animals, especially foxes, belong to the order of Carnivora; because they are a species of wildlife which occupies almost wholly a nocturnal habit.

To continue to enjoy the sport of hunting in field or forest, small game or big game, we, who use dogs must, of necessity, play fair with the trapper. We should use him as a fellow friend. We should give him encouragement. He keeps under control those animals which prey most on our small game.

If time permits this winter, I expect to prepare for booklet form a "treatise on trapping". It will cover the subject from the more modern and practical angle of application. It will explain how to place traps for fox which will divert the course of a dog; how to release skunks, when so desired, from traps; etc.; methods that work, are simple to use, and which have come to me naturally during a course of a score of trapping seasons. It will be profusely illustrated with actual photographs showing application in use.

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CURRENT TOPICS



Former President of the Game Commission, Adolf Muller, of Norristown, left, and Col. Nicholas Biddle, now President, comparing their first day's kill at the home of the former.

BEAR-DEER KILL CORRECTED

Immediately after the Tabulating Machine Company gave the Commission results of its tabulation covering game kill reports submitted by 88% of the licensed hunters for 1937, John Mock of the *Pittsburgh Press* and others questioned the bear kill figures, as published in the October GAME NEWS. Members of the Commission and the Staff also were somewhat nonplussed by the reported kill of 912 bears.

After analyzing the situation several capable members of the Staff were detailed to examine all of the deer and bear kill reports (which had been retained for other purposes) in an effort to determine whether the employes of the Tabulating Machine Company might have misread some because they were carelessly filled out. It was found that certain of the cards had been completed in such a way that a person not entirely familiar with all angles of the problem could easily have mispunched them as covering both deer and bears, when in reality the hunter intended to report a deer only. By eliminating these and adding the few additional individual reports that later came direct from the hunters the total now stands *39,347 deer* and *537 bears* instead of 39,009 deer and 912 bears.

The newspaper mat service inaugurated recently has had tremendous favorable response, and the Commission is grateful for such splendid cooperation. Through it over a half million sportsmen in Pennsylvania will be able to gather first hand information on what the Game Commission and the sportsmen are doing from their local papers.

Officials of the Biological Survey, Washington, D. C., and the Pennsylvania Academy of Sciences, Philadelphia, were called upon recently to identify two animals thought by some individuals to be young timber wolves. They were live trapped in a remote section of McKean County called the Owl's Nest by Game Commission trappers and sent to Harrisburg where at first glance the Survey and Academy experts confirmed the belief of Seth Gordon and other game officials, and of Col. Henry W. Shoemaker, former U. S. Ambassador and well-known Pennsylvania conservationist, that the animals were coyotes.

This is not the first time the wolf scare has occurred in Pennsylvania. At intervals covering the past twenty-five years coyotes have been sent in by trappers who believed they had captured wolves. Their occurrence is easily traced to people who brought them in from the West, and tiring of keeping them, permitted them to escape. Sometimes, however, they escape of their own volition. There are still a few in the McKean County section and if they are not killed by hunters this season the Commission may plan to trap them. Let alone, they could reproduce to a point where costly control methods might be necessary.

W. C. Shaffer, Director of the Bureau of Protection, recently returned from the State of Missouri where he spent a week in helping formulate a Game Protector's Training School such as Pennsylvania now operates today, and in teaching portions of the curriculum now included in the Pennsylvania course of study.

The editor of the GAME NEWS attended the 56th stated meeting of the American Ornithologist's Union at Washington, D. C., on Tuesday and Wednesday, October 18 and 19. Several hundred members from all over the United States and several foreign countries were present, and some excellent papers were read, both technical and general. Of paramount interest to the Game Commission were the fine colored motion pictures shown by Dr. A. A. Allen, of Cornell University, one of the leaders in this field of photography. Now that the Commission realizes what can be done in this particular field, strenuous efforts will be put forth to prepare for the education of sportsmen and school children in Pennsylvania the best possible motion picture subjects on wildlife and conservation in general. It is interesting to note duplications can now be made of color film by the Eastman Kodak Company for a very nominal sum.

Officers of the Pennsylvania Game Commission cracked down on another bunch of illegal deer killers. This time the Commission's cordon tightened around a gang of Perry County men whom the Commission has been trying to apprehend for the past several years.

This outfit, according to previous reports, was said to be working out of a public garage in Loysville, where it is alleged certain members of the gang would commandeer a customer's car, sometimes first removing the license plates to avoid detection.

Thursday night, October 13, officers of the Commission stopped a car in Shaffer's Valley with three occupants in it. When the officers flagged them, their first action was to throw a gun out into the bushes. The weapon later proved to be a loaded double-barrel, one shell containing a pumpkin ball, the other buckshot. The two men in the back seat had a large pail, capacity about 14 gallons, between them. In the trunk of the car was a wash boiler.

These men admitted they were out for the purpose of killing deer, and that one of the party just previous to the apprehension had fired two shots at one but as far as they knew hadn't hit it. All of the men were arrested and subsequently paid fines of $100 each for attempting to kill deer in closed season. Those involved included Leslie Egolf, J. R. Stum, and George D. Myers, all of Loysville.

The irony of the whole situation is that these men are part of a group in that section of Perry County which has openly opposed the antlerless deer season. Officers in charge of the investigation were Charles B. Baum, Special investigator for the Commission; Joseph S. Checklinski, Traveling Game Protector; Wilbur Cramer, Superintendent of the Training School, assigned temporarily on law enforcement work; and H. E. Russell, Game Refuge Keeper. Officer Baum, who had charge of the detail, said repeated attempts had previously been made to catch these men in the act of illegally killing deer.

CURRENT TOPICS

IN MEMORIAM

We regret to announce the sudden death of Paul N. Ebersole, one of our fellow workers. He joined the Game Commission personnel on February 24, 1936, having been theretofore employed by the Pennsylvania Railroad Company for more than fifteen years. He was assigned to a legal clerkship in the title and abstracting division, where he served until some time in February, 1938, when he was admitted to the Mont Alto Sanitorium. His associates anticipated his early return, fully restored to health, but on October 27 they were shocked to learn of his death at the Sanitorium.

Paul was a cheerful, faithful and efficient employe, a loyal friend, and devoted to his family. He had a genial and radiant personality, the memory of which will long be cherished. We extend our sincere sympathy to the members of his family.

Two more Game Protectors narrowly escaped death at the hands of a hit-and-run driver recently when that individual, suffering a guilty conscience, recognized the officers who attempted to stop him and stepped on the gas. He led them a merry chase for 23 miles over the worst kind of back roads in Perry County.

Several officers of the Commission were on duty in Perry County that night looking for deer spotlighters, and when the aforementioned vehicle approached the driver was given a signal to stop by one of the uniformed officers. Stepping on the gas, hitting and wrecking one of the doors of the state car, the man temporarily made his getaway. The officers chased him all over the country and finally headed him off on the improved road south of Newville. When they finally collared him they recognized in him a man whom they had suspected of violating the Game Law for several years, especially spotlighting deer. His name was Sam Nikels, R. D., Newville.

When Nikels realized that the jig was up and that there was a possibility of his being turned over to the Motor Police as a hit-and-run driver he, knowing the penalty for that offense to be more severe, immediately pled guilty to having killed a deer illegally. He was then taken before a Justice-of-the-Peace who assessed a fine of $100.

Nikels repeatedly has boasted about his deer killing forays; likewise he has boasted that he would never stop for an officer on the highway. The irony about Nikels' case is that last year, while a member of a sportsmen's association in Cumberland County, he repeatedly carried on his car, both on the rear and front, posters proclaiming "BE A SPORTSMAN. DON'T SHOOT THE DOES!"

Officers of the Game Commission concerned in this case included Charles B. Baum, Joseph Checklinski, H. E. Russell, and Wilbur M. Cramer. It is hoped that apprehension of Nikels, as well as three members of a deer spotlighting gang from Loysville, will have a salutary effect upon other out-of-season violators. They may get away with their nefarious practices for a while, but the Game Protectors, like the "Mounties", get their man in the end.

A movement to develop more recreational facilities in Pennsylvania is gaining considerable momentum, according to a recent copy of the minutes of the organization meeting of the Pennsylvania Recreational Council. The Council comprises representatives from the various state departments who have in mind the development of a sound scheme of recreational activities in all its diversified forms. At the initial conference it was brought out that the adult education recreation program of the Works Progress Administration has already 6,800 different centers in which it is carrying on education and recreational work, with between 4,700 and 4,800 supervisors and leaders, 700 of them being in Pittsburgh and 900 in Philadelphia. The program will also include exploitation of Pennsylvania State Parks, as well as a program of wildlife conservation.

The Pennsylvania Game Commission announces the purchase of thirty additional tracts of good game land aggregating 12,691 acres in fifteen counties of the Commonwealth as follows: 106 acres in Londonderry Township, Bedford County, adjoining State Game Lands No. 104; 1,757 acres in Catherine Township, Blair County, in the Beaver Dam section; 17 acres in the Heacock Mountain district of Bucks County; 230 acres in Wayne and Amity Townships, Erie County; 100 acres in Belfast Township, Fulton County, adjoining State Game Lands No. 65; 1,271 acres in Zerbe, Coal and Shamokin Townships, Northumberland County; 248 acres in Washington Township, Schuylkill County; 180 acres in Lower Turkey Foot Township, Somerset County, adjoining State Game Lands No. 111; 1,145 acres in Pittsfield Township, Warren County; 638 acres in Lebanon Township, Wayne County; 166 acres in Ohio Township, Beaver County; 84 acres in West Cameron Township, Schuylkill County; 725 acres in Moore Township, on the Blue Mountain, Northampton County; 400 acres in Beaver Township, Columbia County; 3,086 acres in Bucks and Bear Creek Townships, adjoining State Game Lands No. 91 in Luzerne County; and 880 acres in Cromwell Township, Huntingdon County, adjoining State Game Lands No. 99.

Although it will require a number of months to examine the titles and make the surveys of the boundary lines of these tracts, hunters will have access to the lands this fall.

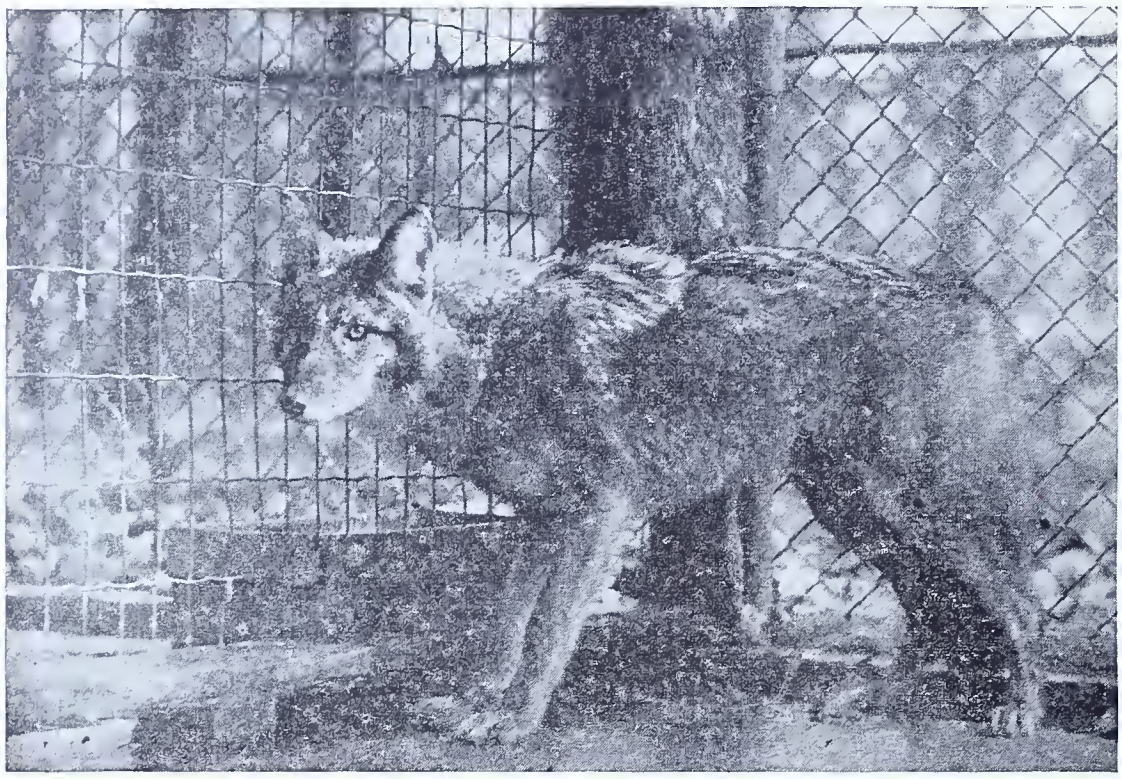
The Pennsylvania Game Commission announces the publication of another new and very fine educational bulletin which will be of interest to sportsmen, naturalists and school children. It concerns the recently dedicated Pymatuning State Game Refuge and Museum located on Ford Island, just a few miles south of Linesville, Crawford County. This Refuge is Pennsylvania's first and only waterfowl sanctuary, and the Commission's new booklet fully describes its acquisition, tells about the thousands of ducks that stop to feed and rest there during spring and fall migrations, and other interesting information. The booklet is profusely illustrated with pictures of wild birds and animals frequenting the sanctuary, part of which is also occupied by upland game as well as waterfowl. Those interested in securing copies should write the Game Commission at Harrisburg enclosing ten cents.

The Museum contains almost 200 mounted specimens of waterfowl and shorebirds frequenting the Refuge and the interest displayed in it in the short time since it has been opened is proof of its tremendous educational value. During the first fifteen days the Museum was open, a total of 4,260 visitors registered. On one Sunday alone 809 persons registered and a great many visited the building who did not register. The first Sunday after the official opening on October 15 between five and six thousand people were on the ground.



Game Protector Ambrose Garhardt stopping and searching cars in Bucks county on the first day of the season.

CURRENT TOPICS



This supposed young "timber wolf" turned out to be a coyote. It was caught in Elk County, north of Ridgway.

The Game Commission is determined to help stop the stealing of hunting dogs. Evidence of the alertness of some of its field officers was recently brought to light in a larceny case surrounding the theft of a valuable coon dog by Lawrence College, of Defiance, and Herman Welsh, of Rays Cove, Bedford County, both of whom were sentenced in court.

Game Commissioner William G. Fluke, of Saxton, got a tip which led the Commission's officers to Ohio, where Hon. L. Wooddell, Commissioner of that State's Conservation Division, assigned several of his expert investigators. Together they caused the arrest of one Samuel Welch, of Conesville, Ohio, formerly a resident of Bedford County, for possessing deer illegally. The hide was found deeply buried at his home. Welch plead guilty, and acknowledged that he had killed the deer in Rays Cove, Pennsylvania, last Spring. His fine was $100 and costs.

Of late years, because of their specialized training, Pennsylvania's Game Protectors have been the means of helping to recover many stolen dogs and firearms. Invariably the thieves proved to be game law violators. These activities have been generously praised by sportsmen and others.

Asserting that the shooting of doves during September is "biologically unsound," Frederick C. Lincoln, of the Bureau of Biological Survey, Washington, says the "time is coming when the season in the southernmost states must be no earlier than *October 1.*"

Sales of duck stamps in the fourth year of the annual series—July 1, 1937, to June 30, 1938—surpassed those for 1934-1935 the next highest year, by almost 150,000. Total sales for the four years amount to 2,469,867. Minnesota was high for the year with sales of 97,609 stamps. Wisconsin, Michigan, California, Illinois, Texas, and Washington followed in that order.

Wildlife authorities from the United States, Canada and Mexico will assemble in Detroit, Michigan, the week of February 13 for the Fourth Annual North American Wildlife Conference, sponsored by the American Wildlife Institute.

The annual meeting of the National Wildlife Federation will be held in conjunction with the yearly roundup of scientific authorities, lovers of nature and sportsmen brought together by the sponsoring organization, which is headed by former United States Senatar Frederick C. Walcott.

The American Wildlife Institute's program, which will run for several days of the week, will consist of panel discussions of important wildlife problems and technical sessions. In the panel discussions controversial problems or matters that need clarifying will be debated by those best qualified on each particular subject. At the technical sessions the latest scientific developments in wildlife will be explained by the authorities making those developments.

Several days of the conference will be given over to the affairs of the National Wildlife Federation, whose president is Jay N. (Ding) Darling, the noted cartoonist and wildlife restoration enthusiast.

Representatives of the Federation's affiliates in each of the 48 States will convene to work out future plans for their organization and make final arrangements for the second Annual National Wildlife Restoration Week.

The first North American Wildlife Conference was called in Washington in 1936 by President Roosevelt. The initial conclave was so successful and aided so greatly in solving many of the perplexing problems of wildlife restoration that a second was held in St. Louis in 1937 and in 1938 the Third Annual North American Wildlife Conference took place in Baltimore.

Some five hundred ornithologists and conservationists gathered at the annual dinner of the National Association of Audubon Societies held at the Hotel Roosevelt, New York. The dinner terminated the 34th annual convention of the Association, which took place at the American Museum of Natural History.

Dr. Robert Cushman Murphy, president of the Association and associate curator of oceanic birds at the American Museum of Natural History, presided and spoke on the policy of the Association as regards duck hunting regulations. He said in part: "The National Association of Audubon Societies has at no time in its history taken a stand against the shooting of game as a legitimate recreation. On many occasions, however, the Association has called for complete protection of particular game birds or other animals, when evidence indicated that annual and cumulative depletion endangered the maintenance, or prevented the recovery, of normal populations. To give wildlife, rather than gunners, the benefit of every doubt, has been the consistent purpose of the Association, and one in which it has enjoyed wholehearted support from many leading sportsmen.

"As regards the vast reduction of migratory ducks and geese in the United States since the advent of modern firearms, no other evidence is needed than the progressive trend in the direction of reduced shooting privileges. When, in 1935, the numbers of birds had abruptly descended to a low point universally admitted to be alarming, the National Association urged upon the Federal Government a one-year cessation of waterfowl shooting. The same course was advocated in 1936 and 1937. This objective was not attained, but beyond doubt our efforts had much to do with the drastic shortening of the open season during the most critical period of North American waterfowl history, as well as with the banning of certain shooting methods that had developed into abuses."

Other speakers were: Dr. Ira N. Gabrielson, chief of the United States Biological Survey; Dr. T. Gilbert Pearson, president emeritus of the National Association of Audubon Societies; Dr. Gilbert Grosvenor, president of the National Geographic Society; Senator Frederic C. Walcott, president of the American Wildlife Institute; Mr. W. Redmond Cross, president, New York Zoological Society; Mr. Dean Sage, Jr., secretary, Boone and Crockett Club; Mr. Arno B. Cammerer, director of the National Park Service; Mrs. Andrew M. Williams, chairman of conservation committee of the Garden Club of America; Professor J. R. Dymone, of the Royal Ontario Museum of Zoology; Dr. Robert Cushman Murphy, president of the National Association of Audubon Societies and Mr. John H. Baker, executive director of the National Association of Audubon Societies.

Colored slow-motion pictures of birds of the southern Audubon Sanctuaries were shown following the dinner.

The number of deer killed by landowners to protect their farm crops is mounting higher and higher, close to 3,000 having been shot since January 1. More than 40 deer were killed in an effort to relieve damage to oats and buckwheat on one farm. The officer reporting the case said that the farmer has given up in despair, realizing that he cannot cope with the situation any longer.

CURRENT TOPICS

NOTES FROM THE FIELD

"While assisting Mr. Gordon Krieble with photographic work during the week of October 16, we discovered another great white heron in the east marsh area of the refuge. Pictures were taken of the bird."—Refuge Keeper Burt Oudette, Pymatuning Refuge, Crawford County. This is the second one of these birds to have come into the area this season. The first one was taken by Mr. Oudette and mounted for use in the Pymatuning Museum.

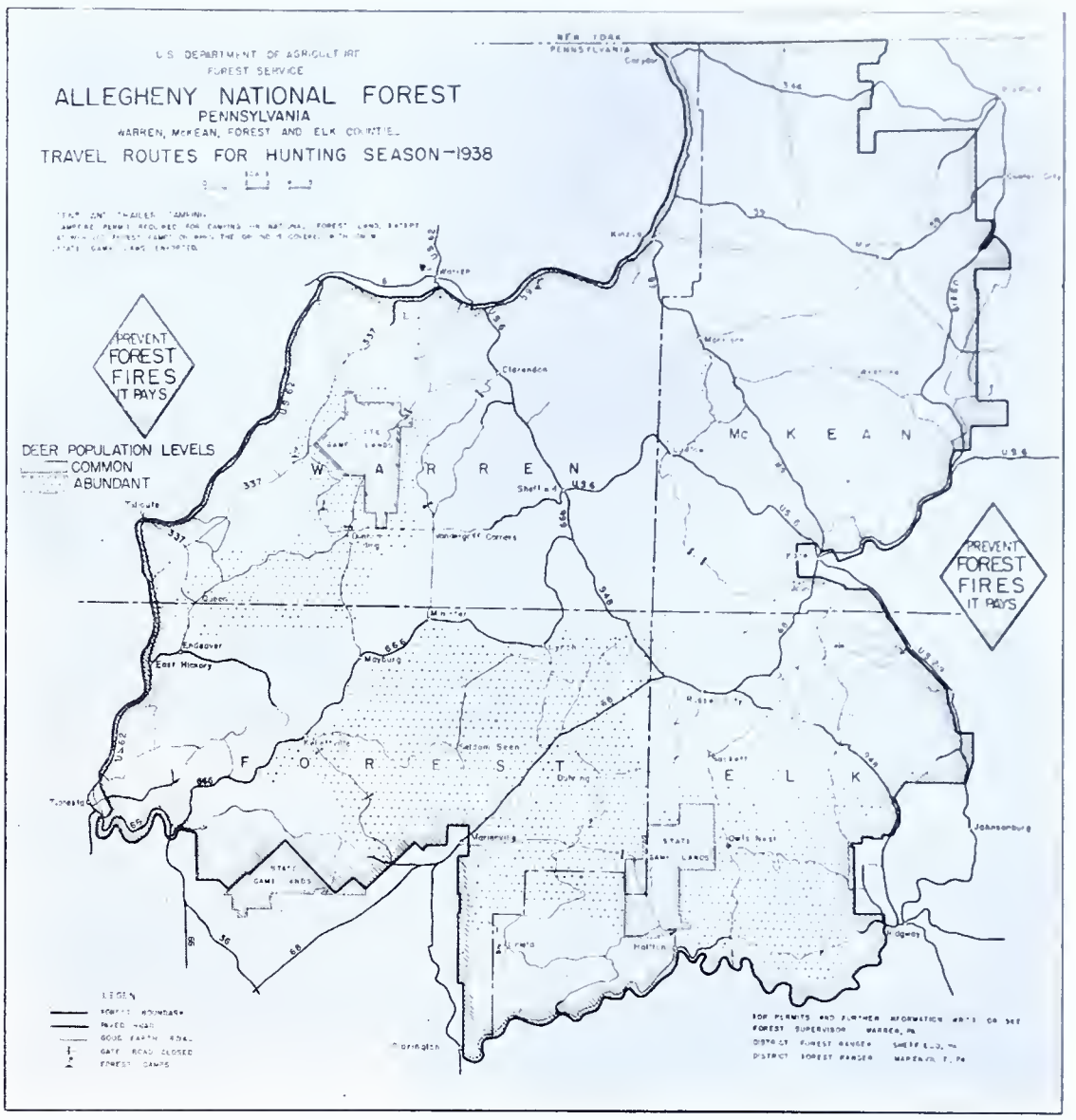
"Doves are very plentiful in this section, small flocks being found in almost every cornfield. Pileated woodpeckers are also present in great numbers."—Albert R. Bachman, Refuge Keeper, Bedford County.

"Killed a rattlesnake that had three small rabbits in it; the snake was only about three feet long. Killed another one the same day that was at least 4½ feet, and which was empty."—Refuge Keeper D. H. Franklin.

"Three old geese with young have been observed at Pymatuning Refuge."—Refuge Keeper Burt Oudette.

"On July 11, I killed a rattlesnake near the cabin in Refuge 51-A. A large bulge in the body showed that it had eaten recently. I opened it and found that it contained a half-grown rabbit. The head and front legs were already digested. The body of the rabbit was covered with hair but the hind legs were bare. The rabbit had been swallowed head first."—Refuge Keeper George Sprankle.

Travelling Game Protector John S. Shuler reports that he was recently given a report of a blacksnake crawling into a house and into a bird cage. It ate four canaries, and then was unable to get out of the cage.



MAP OF ALLEGHENY NATIONAL FOREST SHOWING DEER POPULATION LEVELS

G. E. Spinney, Acting Forest Supervisor of the Allegheny National Forest, has demonstrated the feeling of that Department, as far as Pennsylvania sportsmen are concerned, by having gone to the trouble of preparing a mimeographed folder showing the road systems and towns on the Forest, as well as listing accommodations for hunters, etc. The Department also published a map showing the areas where deer are over-abundant. The Allegheny National Forest with its 426,000 acres of public-owned land offers some of the finest deer hunting in the State, and the sportsmen who hunt in that section are asked to show the same appreciation for the National Forest as they do for the State Forest, being careful with fire and of human lives. They are also asked to report their observations of the deer on that area as such information will greatly help both forest and game officials to study more thoroughly the range and density population of the animals.



Members and Guests at the 56th Stated Meeting of the American Ornithologists Union, Washington, D. C.





Left: The end of a perfect day for a couple of seasoned woodcock hunters.

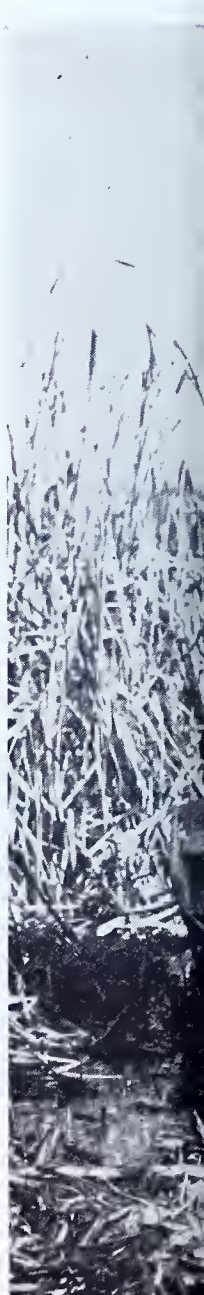
Top: Trails End. The dog, however, apparently wants to go back for more.

Bottom Left: Typical of the opening of the season. These fellows had a good time and a good bag.

Bottom Right: The Pymatuning held the limelight for western Pennsylvania duck hunters this fall.

Your Game











Right: The four unusual flashlight pictures of deer were taken by Robert B. Ford, well known camera enthusiast, Homestead, Pennsylvania. Mr. Ford works with four and five cameras at one time, so that when an animal trips one off the others operate simultaneously thereby giving him shots from different angles.

News in pictures







WITH THE CLUBS



Game and Forestry Exhibit of the Montgomery County Federation of Sportsmen's Clubs. It was displayed during a farmers picnic sponsored by the organization.

ANNUAL CONVENTION OF UNITED SPORTSMEN

Many constructive ideas were promulgated and many excellent resolutions passed at the 31st Annual State Convention of the United Sportsmen of Pennsylvania, held at Mountain Lake Club House, Scranton, in August. Extracts of the minutes of the convention which just reached the editor follow:

Of particular interest concerning the activities of the head camp for the past year is the fact that over 34 visits were made to various auxiliary camps at which time talks were given and motion pictures shown. One old camp was reorganized and four new ones established.

Officers elected included J. Q. Creveling, Former Member of the Game Commission, Wilkes-Barre, Honorary President; H. S. Smith, Forty Fort, President; Ray Wooten, Sugar Notch, First Vice-President; William Anneman, former Game Protector, now retired, Scranton, Second Vice-President; C. R. Kelchner, Forty Fort, Recording Secretary; H. S. Nicholson, Wilkes-Barre, Treasurer, and Dr. C. A. Mortimer, Wilkes-Barre, Corresponding Secretary.

Directors appointed for three-year terms included William Anneman, Dr. Mortimer, Clinton Hyde, of Dallas, William Roan, of Larksville, and Paul Gardner, of Scranton. Those elected for two-year terms included Stephen Emanuel of Wilkes-Barre; Francis H. Coffin, Former Member of the Game Commission, Scranton; Peter Zikoski, Greenwood; Ray Wooten; and Thomas Mineo, South Scranton. For one year: C. R. Kelchner, Dr. E. S. Smith, Wilkes-Barre, H. S. Smith, Floyd Baker, and H. S. Nicholson.

Resolutions in part are as follows: Increasing the fisherman's license fee 50 cents for purchasing, leasing and maintaining streams and lakes; making it unlawful to make, sell or have in possession any nets larger than those prescribed by law for inland water fishing unless a permit shall have first been issued by the Fish Commission; penalty $100; opposing any further limitations of the use of firearms; requesting that the Sanitary Water Board vigorously enforce the provisions of the pure streams bill; requesting repeal of the Act now permitting fishing for pickerel through the ice; commending the State Game Farms and asking the Game Commission to continue to operate them at full capacity; appointing a committee to study the land posting problem; asking the Game Commission to negotiate with the U S. Department of Agriculture relative to spraying timberlands with chemicals different than those used by them in handling the gypsy moth spray in order to save game from poisoning; requesting an amendment to the present Sunday fishing law to permit the taking of bait fish on Sunday, and limiting the day's possession on live bait of the combined species to 50; requesting the Fish Commission to endeavor to get water companies to open their impounded water to fishing under mutual restriction; recommending the purchase of public streams and lakes as funds become available; recommending the inclusion of the Red-tailed Hawk on the list of unprotected birds; closing all fishing through the ice in all inland lakes, streams, and rivers.

Judge C. Linneus Hovan, who acted as toastmaster, stressed the splendid work that was being done through the organization for the conservation of our natural resources. Seth Gordon, Executive Director of the Game Commission, gave a very interesting review of what has taken place in the improvement of conditions from the earlier days to the present time. In his review he stated that the first sportsman's organization was formed in the year 1844 and is still in existence. Hon. Charles French, Commissioner of Fisheries, and Rev. F. J. Truscott, Member of the Fish Commission, both spoke briefly on the work of that Department. Hon. John Price, Member of the Game Commission, also gave a brief address. Introductions include Chief Harder, Fish Warden, Lackawanna County; Philip Sloan, Game Protector, Luzerne County; M. E. Shoemaker, District Fish Supervisor; J. Gilford, District Game Supervisor; and William Anneman, Retired Game Protector of Lackawanna County.

At the Divisional Meeting of the Northwestern Division of the Pennsylvania Federation of Sportsmen's Clubs held in Mercer, October 9, C. H. Buchanan, of Sharon, was elected President; Odd McCleary of Ellwood City, Vice-President; Seth L. Myers, of Sharon, Secretary; and Paul Howard, of Erie, Treasurer. A valuable idea was born in the electing of both the President and Secretary from the same town, in that quick action can be taken in any emergency which may arise. The most important resolution passed at the session was to support the ruling made by the Game Commission on the 1938 antlerless deer season. The Division also resolved to investigate the possibilities of having the limit of bait fish reduced.

The new President of the Division is a man who has devoted the last 25 years of his life to furthering wildlife conservation and promoting Sportsmen's Clubs, and is well known throughout the nine counties in the Division. He is liked and admired by every sportsman who knows him and the Division would appreciate it were you to tell the readers of the 'News' that the Division is safe in his hands, and that he will make an honest effort to fill the shoes of good old Bill Hughes, the retiring President. The Federation voted the retiring officers a very great amount of appreciation for their well handled term of office.—Seth L. Myers, Secretary, Sharon, Pa.

WITH THE CLUBS

EXTRA! EXTRA! EXTRA!

"Over 600 Crawford county sportsmen are reported to be up in arms over the antlerless deer season and are on the point of marching on Harrisburg in an attempt to halt the deer season, according to C. S. Lemmen of Limestone, who has been in close touch with recent developments."

We quote from the Marienville Express, issue of Thursday, September 22:

Certainly, an item like this deserves the "extra" heading. It must be news to about 2,200 members of the Crawford County Branch, Sportsman's Council, which is on record as favorable to an antlerless deer season and which most assuredly has made no protest about the six-day season to be effective November 28. We haven't the vaguest idea who C. S. Lemmen of Limestone is—nor do we know where Limestone is located. But we're all-fired sure that Mr. Lemmen is NOT in close touch with the situation, as the *Marienville Express* declares.

It may be that our county, and our own organization, houses some sportsmen sincerely opposed to the plan of shooting antlerless deer to reduce and balance the Pennsylvania herd. But they're a minority of good sports who are going along and not raising hell and threatening political reprisals as are the York county "sportsmen" who've threatened to throw out the entire administration because of the antlerless deer season. Talk about putting the administration of game and fish codes in politics. The "sportsmen" are doing it down there with a vengeance.

We're as certain as we are that the Crawford County Branch, Sportsman's Council, is a live, progressive, aggressive, cooperating organization, that there is NO band of over 600 Crawford county sportsmen ready to march on Harrisburg in an attempt to halt the deer season." There's no band of six, let alone 600!

Mr. Lemmen of Limestone either has been having pipe dreams, or he's allowed his name to be used in the dissemination of a piece of utterly false propaganda.—*The Sportsman's News*, published in the interest of Crawford County sportsmen by the County Branch, Sportsman's Council, affiliated with Division F, State Federation of Sportsmen's Clubs.

The Lehigh County Fish and Game Society recently held a Father and Son meeting, at which over 100 members of the association and their sons were present. Hunting and fishing stories and movies were the main highlights of the program, at the completion of which every boy was presented with a copy of the booklet, "Pennsylvania Bird-Life", published last August by the Game Commission.

The Pioneer Fish and Game Protective Association, of Allentown, recently put on a drive for a membership of 1,500. The club now has over 1,000 members. In order to stimulate interest 15 door prizes were given out, all valuable hunting equipment, at its Booster Meeting. The club has started its fall and winter activities and is erecting many feeding shelters. It also supplied 17 farmers with seeds for planting a winter food supply.

LOST!

Sunday evening, October 30, 1 female hound, two years old, blue tick about 24 inches tall, black ears with silver streaks, black markings on body. Lost in vicinity of Bob's Creek, near Game Refuge Keeper's headquarters. Last seen near Diamond Run school house. Dog wearing name plate and collar with telephone number and address. Reward offered. Communicate with Joseph Oravcz, R. D. No. 1, Box 26C, Portage, Pa.

According to game officials, a great many hunters are of the opinion that the opening hour for deer and bear shooting this season begins at 9:00 o'clock the same as it did for the opening of the small game season. This is not the case, game officials announced, stating that the opening hour for both the bear season which begins November 14 and the antlerless deer season which begins November 28 is at 7 A. M.

During the coming antlerless deer season, the Commission urges hunters to cooperate by removing the deer in *outlying farm districts* where they do not belong. Such cooperation will reduce the herd and relieve deer damage to farm crops.

The American Kennel Club Class 13 inch and 15 inch all age Beagle Dog field trial held on the Castle Shannon Sportsman's grounds Sunday, October 16, had a fine entry of 36 dogs. The Judges included Joe Brinsky; S. J. Gardner; and James Hughes, who gave a good account of themselves and handled the trials like real veterans; Field Marshall William Meuschke, and his committee also functioned nobly.

Winners of the 15 inch Class: First, Echo Dell Ruff, owned by O. B. Weinman, Bellevue; Second, Sun Valley Emma, owned by Dan Francis; Third, Whiskey Run Jack, owned by F. J. Campbell; Fourth, Hoods Sassy Quenn, owned by P. W. Metz, Pittsburgh; Reserve Class: Leir Zaphs Indigo Streak, owned by J. W. Leirzaph, Pittsburgh.

Winners of the 13 inch Class: First, Sheiks little Diva, owned by J. H. Huddard, Pittsburgh; Second, Crishlys Peggy, owned by Charles Crishly, Carnegie; Third, Flip Daisy, owned by O. B. Weinman, Bellevue; Fourth, Hoffmans Sally, owned by George Hoffman, Crafton. Reserve Class: Bardone Tulip, owned by Sam Calderone, Pittsburgh.

The run-off between the 13 inch and 15 inch classes for the grand prize was made between Echo Dell Ruff, of the 15 inch and Sheiks Little Diva, of the 13 inch and was won by Echo Dell Ruff.—George C. Dietrich, President.

ONE ROTTEN APPLE - -

One rotten apple, so the saying goes, can do a lot of damage to a barrel of good ones. By that token, too, organizations of any kind must be careful of the members allowed to speak or act for them.

Sportsmen's clubs are no different. They are judged by the public upon the behavior of their members. If a member of the Blank Sportsman's club is seen trespassing upon another's property, seen shooting ducks out of season, caught by a warden with more than the legal bag limit of game, or found violating the conservation laws, the reputation of the club is bound to suffer in the eyes of the general public.

Of all sportsmen, members of organized clubs should be the most careful in their actions and utterances, for their fellows are bound to suffer because of an individual's misdeeds.

It works the other way, too. If the members of Blank Sportsman's club have, through the exercise of care and good sportsmanship, built up a good reputation, land owners will be glad to extend favors not granted to non-members.

We know of many sportsman's clubs which have such fine reputations with farmers and land owners that members, simply by showing their membership cards are allowed the freedom of many private lands otherwise closed to hunters.

On the other hand there are sportsmen's groups which do not have the best of reputations. Their members have not always been careful. Perhaps only two or three members have really been bad actors, but still, the rest suffer, and people say, "Sportsmen? Why last fall I saw Joe Zilch and Johnny Dokes, both of 'em members of the Blankety Blank Fish and Game club out hunting, and they were violating every rule of good sportsmanship. If that's the kind of guys they have in that club, I'm steering clear!" "Yeah, I saw some of the boys, too! They broke down more fences, punctured more cows, and endangered more lives than the rest of the hunters put together. Sportsmen? My eye!"

So—it pays to be careful, to see to it that every member lives up to a definite code of good sportsmanship. Members of sportsmen's clubs should set an example for other hunters. Observe all the rules of safety, common sense, and good conservation.—From *The Wisconsin Sportsman.*

The Mill Creek Sportsmen's Association recently decided to award a first prize of $3.00 for the heaviest pheasant shot and a second prize of $2.00 for the next heaviest. Prizes of $2.00 each were also awarded for the heaviest rabbit and squirrel. The organization also voted to purchase and release 300 cottontail rabbits for restocking in that section.

The Forest and Stream Sportsmen's Association, of Coaldale, officially opened a splendid hunting cabin in the Pocono Mountains, near Albrightsville. The structure is built to accommodate fifty members.

WITH THE CLUBS

LEAGUE SUPPORTS COMMISSION

The Pennsylvania division, Izaak Walton league of America, ended its two day state convention at York, October 21 and 22 by reaffirming its confidence in the decision of the Commission to establish an open antlerless season and to close the buck season this year.

Action was taken in a resolution unanimously adopted by the delegates after they heard the Commission's open doe season ruling ably defended by John M. Phillips, Pittsburgh, former head of the Commission and a pioneer conservationist.

Addressing the delegates at the Colonial hotel, Mr. Phillips said doe outnumbered the male deer forty to one and held that a healthier herd would be the result of killing off many of the old does.

Must Decrease Herd

Heavy damage to crops have resulted from deer entering farmlands because they cannot get nourishing food in the forests and hills, Mr. Phillips declared. "One farmer in Potter county," he added, "killed 47 deer this year to save his oat crop."

While he urged a long range program to better care for the deer, Mr. Phillips said the herd must be decreased to enable conservationists to adequately deal with the problem. "By decreasing the number of doe we are attempting to solve the immediate problem," he contended.

He said young deer were dying by thousands because they cannot obtain the proper forage.

S. Barry Locke, Boston, regional director, U. S. Bureau of Biological Survey, in an address, also was inclined to favor the open doe season. He held that the increasing number of deer necessitated a change in the way of dealing with the problem.

The convention ordered the speakers' remarks be printed for circulation throughout the state to enlighten the people on the deer problem.

Adopt Resolutions

The delegates passed a number of resolutions, four of them dealing with the State Sanitary Water Board and its program to combat stream pollution.

The one resolution urged that "the Sanitary Water Board be designated as a strictly independent administrative agency instead of its present status, which is in the nature of an appendage to the Department of Health. Appropriation should be made direct to the board which would be in charge of an administrative head who need not be a technician, but must be dominated by a desire to redeem our waters. Employes of the board should be under direct control of the board and special counsel from the Department of Justice should be assigned to the work of the board alone."

Other resolutions urged the state Sanitary Water Board to pay more attention to complaints on stream pollution; to institute research work on industrial pollution problems, to publish an annual report on its work, and to report the amount of stream pollution.

One resolution urged that conservation be made a part of the public school curriculum.

Other resolutions recommended that the number of fish wardens be increased comparable with the number of game protectors; greater protection be given groundhogs; fish bait be permitted to be taken on Sunday; fishing licenses be increased for the purpose of supplying funds for acquisition and maintenance of public fishing waters; substantial reduction be made in the limit of fish bait; that the Game Commission determine whether it would be feasible to kill some hen pheasants as well as cocks; an amendment to the forest laws to permit sale of trees to conservation groups for conservation purposes; prohibiting trapping raccoons in specified areas; and that deer illegally killed or unclaimed which are sent to institutions be used solely at such institutions.

Kulp Reelected

The delegates approved the report of its nominating committee. Rev. Darlington R. Kulp, Reading, was reelected state president for the third consecutive year.

Other officers: First vice-president, Frank D. McCue, Oil City; second, Dr. J. Norman Entriken, Kennett Square; third, Hudson Chandler, New Kensington; secretary, Charles R. Bersen, Reading; treasurer, Albert E. Holl, Media; directors, T. W. Durner, Oil City; E. H. Blackburn, Everett; Fred E. Haegele, Hazleton and Dr. W. P. Walinchus, Mahanoy City.

President Kulp announced that the formation of a ladies' auxiliary to the league would be discussed during the coming year. He appointed Mrs. Kulp and Mrs. Philip G. Platt, Wallingford, to determine the feasibility of setting up an auxiliary.

The place of next meeting is to be decided during the year.—Bernard Elsesser in *The Gazette and Daily*, York, Pa.

"I have just learned through Bert Ackerman, of Altoona, Pa., that his good setter, Ben Florendale, is dead. Ben was quite a character. He was always able to hold his own in the one-course trials of the East back in the early thirties, and not only was he a splendid field dog, but a splendid type of bench dog. The Ackerman family will miss Ben very much, and the field trial fraternity of the East, I know, join me in offering their condolences to his owner."—Charles Forrer, Camp Hill, Pa.

While hunting near his home, Mr. Alfred Copenhaver, Colonial Park, Pa., was surprised to see a rabbit running directly across his path a few feet ahead of him. Knowing that he had not kicked it out and also noticing a dark spot on the side of the rabbit, Mr. Copenhaver shot the rabbit and upon picking it up discovered that the dark spot was a weasel clinging to the throat of the rabbit; the weasel also had been killed by the same shot.

District Attorney Park, of Allegheny County, an ardent hunter and sportsman, took a great interest in the case of two Allegheny County boys who ran afoul of the law last year for hunting without proper licenses. To avoid trouble this year, Mr. Park personally presented the boys with legal hunting licenses. In a letter to Seth Gordon, Executive Director of the Game Commission, Mr. Park said, "I am making an effort in this county to get the thought across to the young people that law enforcement officers, including game wardens, are interested in seeing that youngsters get all the enjoyment possible out of living. I have succeeded in convincing these three boys from Imperial that it is the desire of the Game Commission and its wardens to see that youngsters have an opportunity to have healthful enjoyment out of hunting in a legal manner. I believe that if it would be possible personally to contact all of our youngsters in Allegheny County we could very greatly reduce law violations not only in connection with the Game Code but other laws as well."

The Mechanicsburg Sportsmen's Association recently released 250 ringnecks, a dozen crates of rabbits and 30 fox squirrels in that section of Cumberland County. Liberal restocking also was made by the New Cumberland Sportsmen's Association and the Middletown Angler's and Hunter's Club.

Sometime ago the Titusville Chapter of the Crawford County Sportsmen's Council lost its clubhouse by fire. The result—splendid cooperation from everybody in rebuilding it. The value of an organization in a community can well be measured by such support.

The Bucks-Montgomery Coon Hunters Field Trial drew a large entry. The novice race was won by Blue Boy, first tree dog, entered by Joiner and Zaunser, Sharon. First line won by Indigo Bob, owned by Mr. H. L. Steffy, Reading. First elimination heat won by Mountain Echo, winning both Line and Tree, entered by Belue and Delenghy, Madison, N. J.; Second elimination heat by Little Jack, first tree dog, entered by Mr. Ray Boyce, South River, N. J. The first line dog entered by Hoffert and Kichline, Hellertown, Pa. Joe Boy was the winner; Third elimination heat was run in fast time with first tree dog going to Rowdy entered by Belue and Delenghy, Madison, N. J. First line was won by Ranger, entered by Hoffert and Kichline, Hellertown, Pa.; Fourth elimination taken by Scout, who won first tree and first line, entered by Joiner and Zaunser, Sharon, Pa.; Final, by Ranger, first line dog. The final tree was won by Ranger, first line dog. The final tree was won by Scout. Ranger was entered by Hoffert and Kichline, Hellertown, Pa. Scout was entered by Zaunser and Joiner, Sharon, Pa.

WITH THE CLUBS

Elaborate ceremonies marked the dedication of Chief Logan Lodge, the new home of the Blair County Fish, Game and Forestry Association. This active group was organized January 22, 1915, in the cigar store of John H. Winters, Altoona, with 65 chartered members. At one time the membership numbered over 1,800. The original organization meeting was addressed by Dr. J. H. Kalbfus, first Secretary of the Game Commission, who took a keen interest in the association's work and who followed it until the tragic day he met death in an automobile accident while on a tour of duty for the Commission.

The club now owns a 428 acre tract of the best game lands in the state with an auxiliary refuge of 100 acres set aside for the propagation and rearing of game. The newly dedicated cabin is located in Riggle's Gap. It is a beautifully constructed log affair, well equipped to accommodate over fifty persons. Officers of the association include J. Herbert Walker, President; Benj. F. MacCartney, first Vice-President; Charles F. Books, second Vice-President; George C. Mock, Secretary; Ira Keagy, Treasurer, and Joseph W. Parks, Chairman.

The Parkinson's Ferry Rod and Gun Club, Monongahela, Pa., held such a successful banquet recently that a resolution was adopted establishing it as a semi-annual highlight in the club's efforts to stock and preserve game and fish in that locality. The club, which is now two years old, has a membership of over 100 active sportsmen and has a leased farm of over 650 acres. Officers include J. P. Rider, President; George McMasters, Vice-President and Chairman of the Association's Game Committee, and A. A. McVicker, Secretary.

A splendid gallery attended the Third Annual Field Trials of the Black Forest Trial club October 22 and 23. In the amateur event Pine Creek Bess owned by Warfield Dunkle, of Jersey Shore, took top honors for the second successive year. The Open Derby winners in order were Lehigh Duchess owned by B. W. Druckenmiller, Pittsburgh; Prince Rod Mac owned by Harold Bolton, Clearfield, and Betty Brunette owned by William McClacken, New Kensington. The All Age winners included Deuce of Clubs owned by Sam Light, Punxsutawney; Macbeth owned by Charles Eldridge, Jersey Shore; Lehigh Lizzie Joe owned by B. W. Druckenmiller, Pittsburgh. Winners in the amateur events were Pine Creek Bess, first; Egyptian Suzy owned by John E. Morar, Sharon, second; and Keystone Bille, owned by Ed Shearer, Farrandsville, and Snowball Taras owned by Pat Reeder, Coudersport Pike. The two latter dogs tied in the event.

The Decatur Township Sportsmen's Association, of Osceola Mills, just recently started a campaign against the needless slaughter of game along the highways by motorists. Several hundred Game Commission posters are being used in the campaign.

The Pigeon Creek Sportsmen's Association, of Cokeburg, just finished releasing the ringneck pheasants which they raised this summer in their own propagating plant. The club was successful in rearing 224 out of 257 day-old chicks furnished them by the Game Commission. The club also just closed its vermin contest, the losing team furnishing a banquet for the winners.

Many interesting events marked the 10th Annual Field Day of the Delaware County Chapter of the Izaak Walton League held near Media on September 17. They included fly casting, bass plug accuracy, bait casting, running rabbit, pistol, cracker, rising bear, flint and percussion rifles, rising gopher, and poker shoots. Both men and women participated.

NEW CLUBS

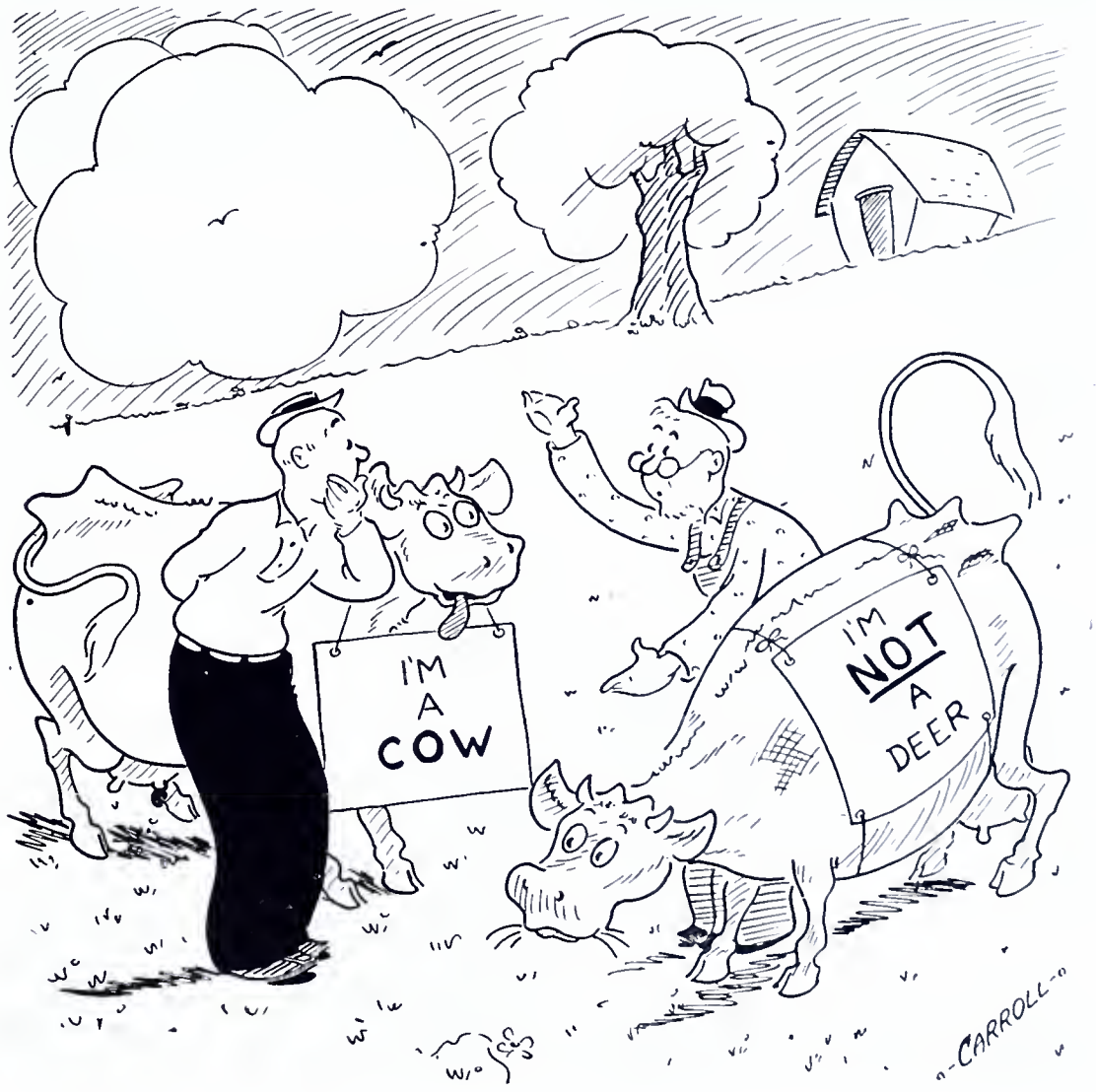
Lehigh University Sportsmen's Club, Robert Stoudt, President.

Recently organized Horton Township Sportsmen's Club—membership of over one hundred —located at Brockport, Horton Township, Elk County — President, W. C. Daughenbaugh, Shawmut, Pa.

A new target, which is designed for indoor or outdoor shooting, has just been brought to our attention. It has been used successfully by a few clubs for raising funds. It is interesting and I am sure all little clubs whose treasuries are low will be greatly benefited by running a turkey shoot with the use of these targets. We know that this target has been in use by one club for four years and each year attendance and gross receipts have increased. Those interested may obtain sample copies by writing E. S. Bullock, Lansdown, Pa.

Current fashions are demanding more and more fur, despite a diminishing supply of wild animal pelts. To meet this demand, says Frank G. Ashbrook, in charge of fur resources for the U. S. Department of Agriculture, the fur industry is turning to fur-bearing animals raised in captivity.

Ten years go the number of pelts sold by fur farmers or ranchers was insignificant. This year, Mr. Ashbrook estimates, about 300,000 silver fox pelts and 200,000 mink pelts will be sold from animals raised in wire pens or cages. These skins will represent nearly 20 percent of the value of all raw furs sold in the United States, or roughly $13,000,000.



SCATTER LOADS



Photo by J. S. Dittmar.

Epsy Raighard, Bedford, holding blacksnake with half swallowed grey squirrel.

Trumpeter swans apparently are just about holding their own in a battle against extinction, says the U. S. Biological Survey. They are the largest North American wild fowl, weighing at least 25 pounds and having a wingspread of 8 feet.

This summer's count of 148 birds in the United States is 10 less than last year, but another census to be made shortly may reveal more birds. Survey officials explained that several broods of cygnets, or young swans, hidden by dense vegetation may have been overlooked.

Arrangements have been made through Henry C. Groseclose, national treasurer of the Future Farmers of America, for Virginia members of the F.F.A. to conduct a section in "Virginia Wildlife." Suggestions for farm wildlife restoration projects will be included, together with reports from chapters and members taking part in the state conservation program jointly sponsored by the F.F.A. and the Virginia Wildlife Federation.

A fawn deer crashed into the side of an automobile operated by R. R. Kibler, near Waterford, recently, and was injured fatally.

Most of the big game animals are making encouraging gains in numbers on the 158 National Forests, the Forest Service, U. S. Department of Agriculture, reports. Careful big game counts and estimates during the past winter show a total of 1,742,000 antelope, bear, deer, elk, moose, mountain goats and bighorn sheep as compared to 1,493,000 a year ago.

Antelope, deer and elk show the largest increases since 1924. Although antelope are considered a plains rather than a forest animal, it is estimated that about 25 percent of all those in the nation, or more than 17,000, are now reported on the National Forests, an increase of 340 percent since 1924.

Deer are reported to be the most common of all big game, numbering 1,450,000, an increase for the past year of 51,000 and a 290 percent increase since 1924.

Elk in the National Forests now number 138,000, an increase of 12,000 in the past year and of 260 percent since 1924.

Moose increased nearly 170 percent from 1924 to 1934, dropped sharply in numbers in 1935 but have now increased to 6,200 or a gain for the 14-year period of 138 percent.

The game animals which have made relatively small gains or have shown slight declines include black bear, grizzlies, mountain sheep and mountain goats. The National Forests of the United States now contain 11,700 mountain goat, 47,000 black bear, 670 grizzlies and 8,800 mountain sheep. In addition, the Tongass and Chugach National Forests in Alaska report 36,000 deer, 530 moose, about 6,000 mountain goat, 1,500 mountain sheep, nearly 7,000 black bear and about 4,500 Alaska brown bear and grizzlies.

"Our men have been killed, assaulted with fists and knives, badly beaten and dropped into rivers to drown, shot down from ambush and otherwise attacked in the line of duty," says W. E. Crouch, of the U. S. Biological Survey, in speaking of the work of the Federal Game Enforcement Agents.

"Game law enforcement at its best is often not a pleasant task. Our agents travel by car, train, on horseback, on foot and even on snowshoes and in airplanes to perform their duties. The Agents' yearly travel, on the average, is about 30,000 miles, so it can readily be seen that the men must be mentally alert as well as physically fit."

The Government started with a staff of about 15 men in 1913, when the Federal Government was given a say in bird hunting regulations. Now there is a regular staff of 61 agents and many persons are deputized to help carry on the work.

Many of the agents have received degrees in biology, all are practical biologists and some are lawyers, which helps in preparing cases for criminal prosecution. All are under Civil Service, but the Bureau has formed a practice of appointing only Deputy Game Agents and promoting from the ranks to higher positions.—*From The American Wildlife Institute.*

Iowans received $842,666 for 490,215 pelts taken during the trapping season of 1936-37 according to a report prepared by the Conservation Commission. Prices declined during the 1937-38 season and fewer animals were trapped. A total of 366,210 skins brought Iowa trappers $412,361 last season.

Muskrat skins sold by trappers outnumbered all other species, the total for the two seasons being 389,111. The average price paid trappers for muskrat skins during the 1936-37 season was $1.25 as compared with sixty cents during the 1937-38 season.

A total of 255,709 skunk pelts were sold during the two seasons. The average price paid trappers for skunk skins was $1.00.

Red fox skins sold during the two years numbered 16,244 which brought an average price of $3.00 each.

Mrs. Earle Easton, of Irvine, submits the following interesting account of early day trading:

"In looking over some old papers of my husband's great grandfather, William O. Easton, I came across some store accounts which were issued by Charles Osgood, Sheffield, a dealer in groceries, hardware, dry goods, etc."

'February 1, 1866, credited to his account was $7.05 for a 42 pound venison saddle; November 1, 1866, $10.25 for 82 pounds of venison; December 2, 1865, $12.00 for one wolf scalp, and on April 19, 1866, the same amount for another wolf scalp.'

Mrs. Easton also says, "And to the people who think prices today are high, how about the cost of living in '65?"

'1 plug of tobacco, $1.50; 1 lb. of lard, $.35; 1 candle, $.25; 1 box of matches, $.20; 1 lb. of sugar, $.26; 1 lb. of tea, $2.25.'

"And last but not least, Mrs. Easton says, "he owed a balance of $.50 on a hoop skirt."

Scientists at "Possum Hollow," the Wistar Institute's laboratory zoo, Philadelphia, are concerned with the production problems of Mrs. Possum, who can turn out as many as eighteen baby possums in two weeks. For speedy mass production, or rather reproduction, there's nothing in the animal kingdom like the possum, says Dr. Edward McCady, Jr.

Possum Hollow has had 285 births this year. The female possums, long-range cousins of Australia's kangaroos, have babies so small that a dozen "take up no more room than a spoonful of baked beans," Dr. McCady says.

The half-inch-long young, deaf and blind, somehow get into the mother's pouch, where they incubate for fifty days. When they emerge they are mouse-sized and can see and hear. They must return to mother's "vest-pocket" frequently, however, to nurse and keep warm.

Possums reproduce so rapidly and in such secrecy that no one in the Wistar Institute, where they are raised for scientific study, has ever seen one born. They are the only marsupials (pouch-bearing animals) in the Western Hemisphere.

SCATTER LOADS

ODDITIES IN THE NEWS

Bill, a baby deer, wandered down from a mountain top at Glenwood Springs, Colorado, to a cow pasture when some mishap befell his mother. In the pasture he singled out a Jersey cow. Orphan Bill had a big appetite, but Bossy was capable of meeting the situation. The two were soon inseparable.

George Bowness, of Prince Edward Island, whose hobby is raising wild ducks and geese, has a flock of ringneck pheasants reared by his pet cat. He says young pheasants are flighty after they are hatched, so he divided a brood of chicks between a hen and his cat. The cat proved the more attentive mother.

A ringneck pheasant sat contentedly perched on the roof of a house in York for several hours recently. Not till a resident of the neighborhood climbed an adjoining roof to observe it did the bird fly away.

A ruffed grouse flew through the kitchen window of the home of Mrs. Walter Burns, of Milton, showering her with broken glass. The bird was captured apparently unhurt and shortly thereafter was released.

A rattlesnake killed recently in Horse Valley by two residents of Chambersburg yielded the body of a half-grown gray squirrel.

A doe deer recently committed suicide in a leap over a high cliff along the South Williamsport highway.

While shooting crows along the Conodoguinet Creek I witnessed a peculiar sight. A wounded crow, the result of a long range "prayer" shot, came squawking down from the sky with a broken wing. As I was busy at the time shooting at other crows, I paid no particular attention to it until all the shooting was over. I then saw it hopping along the bank, about sixty feet from where it fell. Turning toward the water, the bird deliberately, so it seemed, committed suicide by wading out into the stream until the water was deep enough for it to drown.—R. McDowell, Division of Research.

Two hunters who holed a raccoon in an abandoned mine near Mapleton recently were severely burned in a blast following their entry. The open flame in their carbide lamp set off a gas pocket. The force of the explosion was sufficient to blow them out of the mine entrance.

A ringneck pheasant flew through the window of the home of Mrs. Elmer Fisher, of Snyder County recently. Mrs. Fisher was ironing at the time and was badly scared. The bird was captured and its injuries dressed. When it recovers it will be liberated.

The following letter was sent to all farmers who cooperated in a Farm-Game Project sponsored by the Middletown Anglers' and Hunters' Association:

Dear Sir:

We are attaching hereto a paid-up membership card of the Middletown Anglers' and Hunters' Association for the year 1938 which was authorized by resolution at a recent meeting of the Club. We trust you will accept it in the co-operative spirit in which it is given.

Our group is of the opinion that your membership in the Club will greatly assist the Sportsmen in their effort to conserve and propagate game as well as develop a better understanding of certain problems, discourtesies and conditions as they arise. We want you to feel that "The Club" is "Your Club" and earnestly invite your criticisms as well as any favorable comments you feel that the Co-operative Farm Game Area has provided.

Owing to this being the first year and a late start, we cannot expect too much until the refuges and safety zones make returns next year on the stock left and an opportunity for more stocking is possible.

You will probably be interested to know that Dauphin County has another Game Farm Area which was established thru the efforts of the Game Commission and the Harrisburg Club in the Linglestown District. This project comprises 1,138 acres.

We have been advised that copies of your contracts, a map, etc., have been forwarded to you by the Game Commission and that the Safety Zone Signs for Building Protection and Refuge wires are being placed on the various farms starting last week. Copies of the PENNSYLVANIA GAME NEWS will be mailed you each month beginning with the November 1938 issue (for the duration of the contract) which we believe you will find interesting.

The regular meeting night of the Club is the last Thursday of each month at 8:00 p. m. in the Union Hose Company parlor on E. Water St., Middletown, Pa. We trust that you will want to attend the meetings which we believe you will find to be sociable and interesting.—NORMAN E. STUCKEY, *Secretary*, By GEORGE W. ACHENBACH, *Chairman*, Farm Game Committee.

EDITOR'S NOTE: The above is a fine example of courtesy and cooperation and will do much to pave the way toward a better understanding between the sportsman and his best friend the landowner.

If you are a sportsman interested in better hunting and fishing conditions, get acquainted with your local Conservation Officer. That is the only reason he is assigned to your territory. You both are interested in the same thing and should be good friends. Two heads are better than one and you might be surprised about the amount of good that would come through such a meeting. So why not let's all get together on this thing?"—This sound advice was given by the Conservation Committee at Des Moines, Iowa.

Pioneering in the field of teaching wildlife management, the Alabama Polytechnic Institute awarded its second and third master of science degrees in this subject at the close of the summer session. They were awarded to Elmer A. Jones, of Roanoke, who wrote his graduate thesis on "The Importance of Certain Woody Plants as Food For Birds In East Alabama," and to Dyer N. Ruggles, of St. Paul, Minn., who chose the subject, "Studies on the Food Habits Of The White-Tailed Deer in Alabama." Walter Rosene Jr., earned the first wildlife management degree last May.

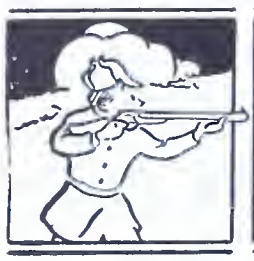
Indiana conservation clubs, rearing pheasant chicks furnished by the Division of Fish and Game, have liberated 10,739 of these popular game birds during recent weeks. In an experiment conducted for the first time this year conservation clubs which had approved brooder facilities were supplied a total of 11,858 day-old pheasant chicks which had been hatched at the state game farms. The liberation of 10,739 birds, or slightly more than ninety per cent of the chicks received by the clubs, is regarded as a very satisfactory record. All liberations were in areas where food and cover conditions were favorable for pheasants.

All the world's dogs sprang from an ancestor that made its home on the North American continent, according to Sigmund Boehm's article, "The Family Tree of the Dog," in the American Kennel Gazette. This ancestor was a small animal, about 20 inches in length, called the "Cynodictis." It roamed the arid plains of western North America during the Oligocene period, 35 million years ago. Mr. Boehm bases his article on work done at the University of California.

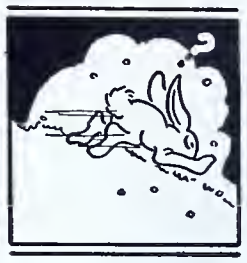
The scientists have gone back even further than the Cynodictis, and are now studying the Miacis, a civet-like animal the size of a weasel, which lived 60 million years ago. Of the work at the University of California, Mr. Boehm writes:

"It will be a surprise to many to learn that the continent of North America must be considered the ancestral home of the canine. Proof for this assertion is that the fossil record of the dog's development is especially complete and easily followed in North America. Despite the fact that fossil records indicate North America as the homeland of the dog, it has not lived here continuously since its first appearance on earth . . . . it left this continent eventually to be rediscovered in Asia . . . . in Asia it became domesticated and was then brought back by the Indians when they crossed the land bridge at Bering Straits, some 15 to 25 thousand years ago."—*National Humane Review.*

Fifty-three of 64 hunters apprehended in South Carolina during September by State game wardens and U. S. deputy game wardens for violation of mourning dove hunting laws were assessed fines totaling $1,220 by State courts, according to a report of the U. S. Biological Survey. The 11 other hunters are awaiting trial.



SPORTSMEN'S QUERIES



By CHAS. F. STAMBAUGH

DEADFALL DEFINED

Q. What is a deadfall?

C.E.M.—Port Royal, Pa.

A. A deadfall is a trap so constructed that a weight, usually consisting of a log or heavy stone, falls upon the animal and disables or kills it. This was a favorite trapping method of the American Indian. A common type consists of a pen over the entrance of which one or more logs are laid across a lighter log, which is balanced upon a trigger so placed that it will be struck by the entering animal, causing the logs to fall upon its back.

* * *

STATUS OF FEDERAL EMPLOYEES

Q. This year I was appointed to a position with the Federal Government, stationed in Washington, D. C., but maintaining my legal voting residence in Pennsylvania. Am I entitled to a resident hunting license?

C.W.D.—Jeannette, Pa.

A. Yes. Inasmuch as you are employed by the Federal Government and maintain a legal voting residence in Pennsylvania, you are entitled to claim this State as your home for hunting purposes and take out a resident hunters' license. Any game killed under that license must be consumed in Pennsylvania, and may not be removed from the Commonwealth.

* * *

LEGAL KILLING OF SPIKE BUCKS

Q. When was the last year that spike bucks where legally killed in Pennsylvania?

L.S.—Sunbury, Pa.

A. The last year in which spike bucks were legal was 1924. During the first fifteen days of December that year, it was legal to kill a male deer with an antler six or more inches long, without points.

* * *

HEIGHT OF DEER

Q. What is the height of a fully matured deer, from hoof to top of back?

J.F.K.—Bellefonte, Pa.

A. From measurements taken of deer killed in Pennsylvania by our Research Division, the average height of a Pennsylvania deer at the shoulders is 36 inches, or 3 feet. While some bucks may measure somewhat higher, the average doe is undoubtedly somewhat shorter than 36 inches.

HUNTING WITH FEDERAL DUCK STAMP

Q. I have a Duck Stamp but have not taken out a Pennsylvania hunter's license. Must I have a license other than the stamp to shoot wild ducks only.

F.S.—West Philadelphia, Pa.

A. If you desire to hunt wild ducks in Pennsylvania, it will be necessary for you to purchase a hunter's license in this State in addition to the Federal Duck Stamp. It is strictly unlawful to hunt wild waterfowl in Pennsylvania by merely purchasing a Federal Duck Stamp at a cost of $1.00. You will require both a Pennsylvania hunter's license and the stamp.

* * *

HUNTING CROWS AND HAWKS ON SUNDAY

Q. Is it lawful to hunt crows and hawks on Sunday?

F.K.—Wanamie, Pa.

A. There is nothing in the Game Law to prohibit hunting unprotected birds such as crows and hawks on Sunday at any time of the year if you are in possession of a proper hunter's license and display the tag on your back. It may be possible to prosecute under the old Blue Laws for the discharge of firearms anywhere in Pennsylvania on Sunday, but the enforcement of those laws is beyond the immediate jurisdiction of the Game Commission.

* * *

CROSSING ROADWAYS TO HUNT WITHOUT LICENSE

Q. May a farmer cross a highway to hunt on the opposite side without a license, if he has the owner's consent?

E.R.S.—Mechanicsburg, Pa.

A. As we interpret the present Game Law, one who resides upon and cultivates a farm may cross a highway of average width to hunt on the adjoining farm without a license *if he has the owner's consent.* The apparent intent of the law is that a farmer and his family may hunt without a license on all properties adjacent to his own, and the fact that a road or ordinary creek separates his land from his neighbors' should not, in our judgment, prevent him from hunting on the adjoining property.

LICENSE TO SELL SHOTGUN AMMUNITION

Q. Do Sportsmen's clubs or other groups holding trap shoots for target practice need a Federal License under the new law to sell shotgun ammunition to the contestants?

W.D.—Dauphin, Pa.

A. No. The new Federal Law effective July 30, 1938, requires dealers engaged in the business of selling firearms and pistol ammunition (except .22 Cal. rimfire), involving interstate commerce, to take out a Federal permit at a cost of $1.00 a year; but in our judgment this would not apply to sportsmen's groups holding trap shoots, as they are not engaged in the business of selling ammunition.

* * *

LENGTH OF RIFLE BARRELS FOR SMALL GAME HUNTING

Q. Is it lawful to use a .22 rifle for hunting small game, if the barrel is 27 inches long?

R.L.A.—Neshaminy, Pa.

A. It is. A rifle with any length barrel is legal for small game shooting (migratory game excepted), if the rifle does not reload automatically. However, to transport a rifle with a barrel less than 15 inches, in any vehicle, for hunting purposes, requires the registration of this rifle with your County Treasurer the same as is required of revolvers.

* * *

LIMIT OF SMALL GAME IN POSSESSION

Q. How much small game may a person have in possession at one time? We are planning a trip for a week.

A.J.S.—Nanticoke, Pa.

A. Not over two days' bag limit. No matter how long you stay on a trip, the 1938 regulations forbid the possession of more than two days' limit by any one person. This means that you may not possess more than 8 rabbits, 8 quail, 12 squirrels, 4 male ringneck pheasants, 4 grouse, etc.

* * *

SHOOTING DEER FROM HIGHWAY

Q. Is it legal to shoot a deer from a public road?

J.W.—Carlisle, Pa.

A. Yes, provided the deer is not on the road and it is not necessary to shoot across the road at the deer. It is permissible to shoot into the woods at deer while you are standing on the one side of the roadway.

PREVENT ACCIDENTS—By John M. Phillips

DESPITE the fact that the Game Commission of Pennsylvania has printed and widely circulated safety rules for the protection of sportsmen while hunting in the state, last year there were 45 men killed and 336 seriously wounded, while hundreds of other were slightly wounded but did not report their injuries.

The records of the State Game Commission show that 88 percent of the damage is done by shot guns and only 12 percent by rifles. It is true that more hunters use shot guns than rifles but it is also a fact that many hunters think birdshot is not as dangerous as bullets, so they handle shot guns less carefully than rifles. This is a mistake since a charge of No. 8 shot will put a hole as large as a man's fist through a two inch plank at close range. The writer has seen a charging bull and a jaguar killed instantly with No. 8 bird shot.

In 1921 the Game Commission approved a law which was passed, making it a misdemeanor to shoot at a human being, wound a human being, or kill a human being in mistake for game or in mistake for any wild creature, with a maximum penalty ranging from $300 fine and a two year suspension of hunting license in the first case to a $1,000 fine and five years imprisonment in the last instance. The law has reduced materially the killing of human beings for animals.

The writer has used a gun since the days when he was so small that he had to place the stock on the ground to shoot into overhead flights of passenger pigeons. Since then, he has handled all types of guns.

The majority of hunting accidents occur because hunters who are not sportsmen, greedy to get in a shot before a companion, carry their guns off safety. Before the day of the hammerless guns, we carried our hammer guns on half cock for safety and pulled back the hammer as the gun went to our shoulder. A man in those days who carried his gun at full cock was ostracized. His companions were warned by the sight of the hammer. They knew to avoid him. But today the button safety is not visable on the gun. A hunter's eye cannot tell him by a glance at his companion's gun whether or not that companion is a potential killer.

Most of these men who are too quick on the trigger keep their fingers in the trigger guard and if they fall, automatically close their hand, thus discharging the gun. They are lucky if they do not kill a companion. Many of them kill themselves climbing fences or are killed by a dog jumping against the trigger. Many guns are discharged while being dragged through brush.

Because of this indiscriminate wounding and killing, many sportsmen are reluctant to hunt in Pennsylvania. This should not be so. There is plenty of room for all.

Today manufacturers place safeties on all firearms. On single and double barreled shot guns, a safety is placed on the top of the stock and is manipulated by the thumb. On pump guns, the safety is placed beneath the stock just back of the trigger guard and is manipulated by the trigger finger.

The writer for many years has been teaching his own sons, Boy Scouts and others that they can shoot just as quickly by learning to manipulate the safety on a gun properly. The gun should always be carried on safety. When a gun with a button safety on top of the stock is thrown to the shoulder the thumb of the hand grasping the stock should push the safety forward so the gun can be fired. As the gun comes from the shoulder, the thumb should pull the safety back. With the pump gun, the trigger finger presses off the safety just before the trigger is pulled.

If this is practiced with an empty gun, even in a room, and the gun thrown on a mark, the act becomes as automatic as pulling the trigger and the gun is always on safety when not in position to be fired. Handling a gun in this way before hunting season will not only preserve human life but will make the sportsman a better marksman. The writer has been shot three times. But because he was trained in handling a gun properly in boyhood, he has the satisfaction of knowing he has never wounded or shot a human being in mistake for game or accidentally.

To eliminate this unnecessary wounding and killing, a law should be enacted making it a misdemeanor, punished by a fine, for a hunter to carry his gun with the safety off. Enforcement of such a law would not be difficult in as much as our game protectors examine a hunter's license when they meet one in the field and could at the same time examine his gun.

CRABS FOR BIRD FOOD—By Harry B. Hostetter

WHO ever heard of feeding crabs to birds! Seems like rather an unusual thing doesn't it, at least when we have in mind such birds as pheasants and such crabs as we generally eat. However, crabs constitute one of the finest foods available for many varieties of birds and another thing is that the same crabs make the finest kind of jelly! Furthermore, these crabs grow on trees. This sounds as if it had the makings of a conundrum to many of you I am sure. In order that those of us who know something about trees and those who do not can start from the same point, let me say I am speaking of crap-apples,—not the big ones sometimes seen but the small ones resembling more nearly a pea in size. Even quail and robins have gullet capacity for these.

There are almost fifty varieties of crabs but for present purposes we will restrict our consideration to:

Botanical Name	*Height*	*Common Name*
(1) Malus floribunda	15/20′	Japanese Flowering Crab.
(2) Malus floribunda atrosanguinea	15/20′	Carmine Crab.
(3) Malus Sieboldi	10/15′	Toringo Crab.
(4) Malus sargenti	6/8′	Sargent Crab.

Why are they desirable? Crabs can be said to be almost disease free which is exceedingly important and the above varieties do not act as host for cedar rust. They are prime bird food. Their blossom in spring is one of the finest, dazzling white and pink, and rivalling if not exceeding our grand dogwood. Entire trees often give the appearance of huge heaps of white or pink bloom. The fruits of yellow or red in fall and winter are in themselves a magnificent display. Entire branches are covered with fruit and it is safe to say that one crab, when mature, will furnish more food than two dozen grape vines, many sumach or dogwoods. They are very tolerant of soil conditions. They are low and densely branched enough to furnish protection from hawks. They are self seeding and when established, dozens of small seedlings can be secured from the ground under the old trees. Birds also carry seeds to different other sections. Winter damage to flower buds is less severe than in ordinary apples. Pruning is not essential. The malus floribunda holds its fruit quite late into the winter if not eaten earlier and is possibly the most desirable of the crab-apple family.

What are their undesirable features and what don't they like?

Although they will grow in shade, they will not bloom well, so should be used only in open stands or on the edges of woods. They are sometimes attacked by borers but less frequently I believe than newly planted mountain ash, dogwood and many others. Rabbits and mice will sometimes girdle young trees but the same is true of many others. They do not like wet, soggy soil.

How can they be propogated?

From seed, by budding on apple stock in July or August, by root grafting in winter, by hard wood cuttings or root cuttings.

For present purposes let us consider growing them from seeds and collecting seedlings for either of which we need bearing trees. It might be possible, even late in the year to locate crab-apple trees of the foregoing varieties on private estates or in nurseries which still have fruit on them. Under each established tree, dozens of seedlings can often be secured. Dig these, wrap roots in damp moss, "heel in" the ground, or pack in moist sawdust until ready to plant. A dozen or two can easily be wrapped in moist paper, carried in the pocket of a hunting coat and with a small trowel, you are "all set" to plant one here and there as you traverse "birdy" country. If gathered in the fall and "heeled in", they can be planted any time during the winter or spring when the ground is not frozen.

In planting of seed, the pomace or covering of the seeds should be broken by rubbing and the seed placed right in the ground. Another way is to stratify them over the winter and sow in the spring.

Try some and I will guarantee you a grand and glorious thrill in the years to come as you watch results and mayhaps get an extra pheasant, grouse or quail from nearby and know that still other birds are having good food due to your efforts. Good luck.

CONSERVATION IN A NUTSHELL—By Phil Platt

"INTELLIGENT conservation of natural resources is the MOST IMPORTANT LONG-TIME problem before the Nation today. Front page news heads, such as war scares, labor wars, industrial depression, and the deplorable condition of the budget may be MORE IMMEDIATELY PRESSING, but next year or ten years hence they will be history, while the problem of intelligent management of natural resources will still be with us—and don't forget that they are the source of all wealth." Kenneth A. Reid, General Manager, Izaak Walton League of America.

Yes, the problem of properly budgeting our natural resources will be with us tomorrow, next year, next century and on into infinity. We can not long endure by a mere balancing of that artificial budget symbolized by money. Money, a symbol of wealth, is ultimately worth no more than its collateral.

Floods, droughts and dust storms have been news features in recent years, yet the general public accepts such news as manifestations of nature, rather than of man's own folly in lack of planning a conservation budget. We have decimated vast forest areas, leaving the stumps and slash as tinder to feed great fires which not only burned the visual surface, but knawed deep into the vitals of the earth, leaving a desolate waste, open to erosion which has, within a few decades, destroyed the major portion of our forest resources—that most reliable of all flood and drought control guarantees. Even today, the average forest fire loss represents a figure of $75,000,000, or sufficient lumber to build a five-room house every 100 feet on both sides of the road from New York to Chicago. This figure does not include inestimable damage to related biological values such as streamflow, animal and aquatic life, and recreation.

We have "conquered the West", given its rich grasses over to the plough, only to see whole farms blown away, to be deposited, perhaps, in the Atlantic Ocean. The Sahara and Gobi deserts were once at least the equal of Kansas and Oklahoma in fertility. Have we profited by this knowledge? Under the guise of "reclamation", we have drained great swamp areas which nature bestowed upon us for maintenance of water tables and valuable wildlife. The professed motive for such drainage projects has been that of producing additional farm lands, though careful scrutiny will usually show that the only gain accrued to the conservation predator (usually in the form of an unscrupulous syndicate) sponsoring the program. The invariable result has been to produce just one more desert which continues to encroach upon what was previously productive land.

Perhaps the most pitiful exploitation of all has been that of our waters. Visualize, if you can, our rivers in their pristine purity, teeming with aquatic life at the time our forefathers first set foot on this Continent. Then go and look at the monstrocity which flows through the "civilized" section in which you live. The silver horde of salmon no longer ascends the Connecticut; the immense runs of shad now shun the Delaware; the oyster beds of Hampton Roads are fast disappearing, and fifty per cent of the remainder are condemned for human use because of the disease germs which this so-called "civilization" has placed there. Municipalities excuse their pollution on the grounds of lack of funds with which to provide adequate treatment works, yet their administrations are perpetually sponsoring "Smith Parkways", "Brown Memorials", or some similar spectacular project of doubtful value, as memorials to the genius of the local political administration in power. Industry excuses its pollution on the grounds of "economic necessity", and pays no heed to the suggestion that waste treatment should be considered as a legitimate part of manufacturing cost which the public would be glad to repay in return for clean streams. Then comes the argument of competitive disadvantage to the industry of such states as adopted enforceable anti-pollution laws. The answer is obvious. Streams flow by gravity with utter disregard for artificial political boundaries, delivering their ever-increasing pollution cargo to the next user, all charges collect. For the sake of uniformity, their uses must be nationalized.

To some of us, wildlife may appear in the form of a luxury, either material or esthetic. Nothing could be further from the truth. Wildlife, either terrestial or aquatic, is a rather definite barometer of the fitness of land or water to sustain human life. This is not sentiment. It is a grim, scientific fact. The social, economic, esthetic and recreational value of wildlife is incalculable. Water incapable of supporting the higher forms of aquatic life is unfit for man or beast. The average depredations of insects represent an annual loss of three billion dollars to the Nation. No control measures yet devised can ever approach that of our native birds. Let's have more of them! The recreational value of wildlife alone is estimated at one billion dollars per annum.

Every community, every citizen, should get behind this program of conserving and restoring our natural renewable resources, the keynote of which is to develope a national appreciation of wildlife, and a united pledge to assist in creating its greatest need—ENVIRONMENT—in order that we ourselves may lead a fuller life and feel secure in the knowledge that we have helped lay the foundation of a more abundant America for future generations.

THE VALUABLE MUSKRAT

(Continued from Page 10)

ears full of water, but they are almost buried in his fur, and generally, if not always, hold an air bubble which keeps the water from entering. The rat can hold his breath for several minutes, but must then secure air or else die. Under the ice he finds bubbles and air pockets, or else comes to the surface at intervals by seeking spring holes or his own burrows.

He is little more than a big mouse or vole, a shy creature with many natural enemies because he is large and good to eat. The foxes follow the creek in the hope of slipping up on him unawares, and the great horned owls sit grimly for hours in trees near the water waiting for a chance to pounce on him.

Were it not for his enemies he would be both numerous and friendly, for he loves little ponds and small streams through the meadows. Where the creek in our valley spreads out into a watery marsh, a family of rats builds a little house of mud each year. Why they desert their snug burrows in the bank I do not know, but just as the beaver builds a lodge the muskrat builds a smaller one and lives in it during the winter months. The lodge is nothing more than a big pile of sods and marsh grass dragged there piece by piece and hollowed out in the middle to form a small chamber. Sometimes there is a lower room or landing platform connected with the outside world by passageways running into the water and dug so deeply that when the ice forms it does not block them. The rising water during freshets floods the lower chamber, but rarely reaches the upper one which is partly filled with grass and chewed reeds to make a cozy bed large enough for several of the family. Here they dry their fur and sleep contentedly with only the air to breathe that filters through the cracks in the roof.

The young number four to ten and are blind, hairless, helpless things which retain their innocent, fearless ways even after they grow fur and come out of the nest. Usually they are born in the bank burrows instead of in the houses, so they may be encountered on the edge of the water chewing everything in sight and exploring fearlessly even though the funny little creatures see you.

Visitors to the creek after dark speak of hearing strange splashes. These are the alarms which the muskrats give by diving noisily to warn all the rat world of the approach of enemies. They can squeak and they can mumble in an odd way, but they use the splash method to sound an alarm. In this also they are like the beaver who, however, uses his great flat tail as a noise maker. But I doubt whether the muskrat ever goes so far as to build a dam. He takes the waterways as he finds them and sometimes even lowers the water level in ponds by weakening the artificial dikes with his burrows, without realizing what harm he is doing.

When it comes to food he is not nearly so choosey as the beaver who likes, above all things, bark and young twigs. The rat, indeed, will eat almost anything in the way of fresh vegetable matter, though tender roots evidently are tidbits. Nor will he pass up fresh-water mussels and dead fish if he comes across them. The former he opens by gnawing the hinge, or sometimes by placing the mollusk on the shore where it weakens and opens of its own accord.

Advancing civilization will gradually blot out the temperamental beaver, but not the muskrat while there are any ponds and streams remaining, for he will make the best of everything and even live in drain pipes and culverts if at night he is allowed to come out and wash his humble fare of lily, flag or grass roots unmolested.

FOX HUNTING NOTES—By Newbold Ely

FOUR great bird states are Georgia, Alabama, Arkansas and Missouri. It is therefore interesting to note what authorities in these states have to say about foxes.

Mr. Charles Morgan, supervisor of the Georgia Game Protectors endorsed Sheriff Turner's report: "There's not the slightest evidence to support the theory that foxes are destroying quail life. So-called hunters with their automatic shotguns give no thought to leaving a portion of a covey for 'seed'. They believe in killing quail for 'meat' to take back home where they can boast of their prowess as a hunter. Sportsmanship with them is an unknown word. Of course there may be exceptions, but a great majority of these away-from-home hunters are what we call 'pot hunters'."

Another Georgia game protector went on to say that stray cats take a heavy toll of quail life, and recently, he found another culprit—a six-foot coachwhip snake which had driven the mother quail off her nest and had swallowed 11 eggs out of the total 16. He listed quail enemies in the following order: Bird dogs, stray cats, hawks, crows and snakes. He omitted foxes entirely from the list.

In Baker county are a number of large game preserves. These preserve owners maintain superintendents whose duty it is to see that the birds on the respective farms are not only protected, but fed. Large patches of feed peculiar to the likes of Bobwhite are planted. Bounties are offered for snakes, crows, hawks, skunks and other animals that prey on birdlife, but no bounty has been offered for foxes.

In Alabama, Mr. Quinn, Commissioner of Game, says in his department's official pamphlet: "The bobwhite perhaps has more natural enemies than any known bird throughout its Southern range. About some of these there appears to be a wide difference of opinion. A fixed opinion, honest though it be wrong, is hard to change. We must, therefore, be guided by the results of scientific research and investigation and by honest observation and actual experience.

"From trustworthy sources of information it is known that the house cat which is allowed its freedom not only takes a heavy toll of birds but actually destroys the eggs of nesting quail. Likewise, we have plenty of evidence to convict the roving dog for his predatory habits on young quail and eggs in the nest. The skunk, especially where they appear in abundance, prey heavily upon quail nests. The cotton rat, of all rodents, is highly destructive of the eggs in the nest, usually eating the eggs as fast as they accumulate. The opossum, which is abundant throughout Alabama, takes a surprisingly high toll of quail eggs. The blue jay also is convicted of this same offense.

"Usually the fox is charged with every offense where there appears to be a scarcity of quail. There have recently been collected nearly one hundred gray fox stomachs, and thirty-six dens of red foxes have been under observation during the early spring and summer in Alabama with the following results: Of 87 stomachs of the gray fox which have had a laboratory examination, trace of one quail was found in one stomach. Of the 36 dens which have been visited regularly since March 1, 1938, traces of one quail in each of these three dens have been recorded. All of these observations have been made and a number of the fox stomachs have been collected in the Union Springs district where the heaviest quail population in the state exists."

G. B. Oliver, chairman of the Arkansas Game and Fish Commission tells of the commission's long-range program of conservation and reproduction. He states that when the program is completed "Arkansas will rank as the top in hunting". Mr. Graves the Commission's secretary offered a man to distribute foxes to the Arkansas Fox Hunters Association, stating that most of the destruction attributed to the fox is caused by other animals.

Dr. Dellinger, head of the Department of Zoology of the University of Arkansas said that investigations by the Department of Agriculture showed that foxes eat wild berries, insects, field rats and mice mostly, and that they rarely eat fowl, wild birds young pigs or lamb. Dr. Dellinger urged elimination of steel traps and strict regulation of trappers.

Guy Amsler, former secretary of the Commission, urged a legislative program to protect foxes and an educational program to acquaint hunters with the value of wildlife conservation in general.

In the next state—Missouri—Mr. Clevenger plans to distribute literature to teach the farmer and the coming generation the good foxes do in protecting crops, and in keeping farm land from being washed into hollows and gulleys on account of the field moles and groundhogs.

THE MAIL BAG

"I wish to express my views concerning the propaganda in regard to the destruction of domestic cats by those indulging in the so-called sport of killing harmless creatures that have been put on this earth for some good reason.

"This strong inclination now prevailing in regard to the destruction of domestic cats, if allowed to increase, is going to create considerable antagonism toward those given the privilege of hunting wild game, by those given privilege of roaming over a farmer's property. This is a privilege that is and has been enjoyed for many years by the general public and is only made possible by the consent of farm owners who have tolerated a great many unsportsman-like acts perpetrated by those taking advantage of a farmer's kindness. It does not seem consistent with proper gratitude, of those taking advantage of that kindness and privilege, to desire to destroy domestic cats which *are the property of farm owners* and are an important and necessary part of all farms. Were it not for these cats the average farm would be overrun with rats and mice.

"Frequently we lock the cats in the chicken house over night in order to exterminate the rats and mice, and as a result have very little trouble. Now are we to expect the destruction of these very useful cats by the very ones that enjoy, from year to year, the privilege a farm owner gives to hunt on his property and has cooperated very heartily with the Game Commission in making hunting possible and agreeable? The excuse will be that these cats destroy small game thus depriving the gunner of that pleasure. This, I feel, is greatly exaggerated and only the imagination of those that have a particular dislike for cats or as a matter of fact have little or no affection for animals of any class for if they did they would not indulge in the so-called sport of destroying *any* harmless creatures.

"We have had at times as many as four cats and I can truthfully say that with but very, very few exceptions have these cats destroyed any small game; furthermore, it is their nature to prey upon wildlife and not having the intellect of mankind, are incapable of distinguishing the class the gunner is privileged to destroy. While we are at this particular point, how many does the gunner destroy of a class that is prohibited yet he is supposed to have intelligence. The cats that we have are given a great deal of care considering their usefulness, and become very affectionate and frequently follow us around the farm. This spring as I was working in a vegetable garden some distance from the house, one of these cats was there with me. In some underbrush near where I was working, was a hen pheasant and her chicks, I had seen them there a number of times and watched them with deep interest and admiration thinking some day they would be the prey of man; however, the cat that was near me made no move to molest these birds and this is no exaggeration.

"There has been so much written and illustrated in the GAME NEWS that is an attempt to create in the minds of those not knowing all the true facts, a great dislike for cats and will encourage cruel and mercilous gunners to shoot them on sight which has been done very much to the indignation of the owners. A few years ago a neighbor of ours found the carcass of their pet cat hanging on the fence of their own property. What a cruel and mercilous thing that was to do for any individual that calls himself a sportsman. This sort of thing is not done with the feeling altogether that a cat is a menace to small game but simply *the desire to kill*, particularly when the real game is hard to find and it is needless to say does not require any great ability in the way of marksmanship to hit a poor defenceless cat.

"Regarding some illustrations appearing in the GAME NEWS with the purpose of creating a desire to destroy cats, I mention one that appeared in the July issue depicting a dead cat laying beside the carcass of a very large rabbit. The most ridiculous part about this illustration was that the rabbit was at least as big as the cat and the cat must have been pretty fleet to catch it, *if it did* and furthermore the cat must have had an extremely voracious appetite to have eaten as much of the rabbit as the illustration was meant to impress. This sort of thing is an affront to the average intellect as are many other illustrations of such character and for the same purpose.

"There is much said about stray cats and that being considered as such, gunners are privileged to destroy them. In what manner can any gunner determine when a cat is straying? We have over ninety acres here on this farm and

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PROGRESS OF THE COMMISSION'S PROGRAM

(Continued from Page 7)

courses of instruction taught, both to the student officers and in the refresher courses, have had upon the entire Field Staff. Three years ago the entire group was primarily law enforcement minded; *today these employes, and more and more groups of sportsmen, are increasingly thinking in terms of game management*—habitat improvement, small retreat refuges, food planting, cooperation with landowners, research, etc.

The benefits of this plan are already evident everywhere in the field. The expenditures in connection therewith have been fully justified, and it is predicted that as the years pass the value of this approach to the Commission's personnel problems will become increasingly evident and appreciated.

The Game Commission's methods of selecting and training field personnel have attracted attention throughout the country, and many States are now using them in one form or another.

While law enforcement as such is becoming less important as the general spirit of law observance increases, yet sound legal procedure is highly essential. The Commission's new handbook on this subject has filled a long felt need. It is unique among legal presentations for the guidance of those not learned in the law.

Staff Reorganization—This phase of the work has been approached in several successive steps. Early in 1936 all Division Supervisors were reassigned; former Assistant Protectors were recommissioned as Traveling Protectors and assigned to duty throughout the Divisions as needed; and various District Protectors were transferred to new posts.

The second step, and probably one of the most important of all, especially from the standpoint of improved morale, launched in July of that same year, was to include all field officers in a special Enrolled Field Service with definite annual increments in compensation for meritorious work, with a stipulation that officers who fail to merit their annual increments for two successive years shall be dropped from the Staff.

The third step, under careful study by a Special Committee of the Commission for the past year and now before the Executive Board for approval, encompasses a further reorganization not only of the Field Staff but the entire administrative setup in the Harrisburg Office as well. Under this plan the work throughout will be reoriented and organized in a more businesslike manner. Its principal effect will be (1) to fix more definite responsibility for each phase of the Commission's activities; (2) to have all operations clear through designated central channels, especially in the field; and (3) to eliminate previous overlapping functions. In the future more of the Commission's work will be directed and managed in the field instead of from the central office.

Another phase of this third step encompasses a still more equitable scale of compensation rates for field employes, which at the same time will eliminate undesirable former class distinctions among said workers.

From the foregoing it will be observed that the Commission has certainly made good on the several important proposals discussed and agreed upon as objectives almost three years ago.

In addition to the foregoing, certain other fundamentally important steps have been taken. Among them are:

Propagation & Stocking—Artificial propagation of mature game birds was boosted to a new high peak in 1937, and under the Commission's policy to produce or purchase and release mature stock in the springtime instead of in the fall an increasing number of mature game birds have been stocked each year. Steps have recently been taken to secure more accurate cost figures on all game produced on the State Game Farms, and each operation will in the future be conducted and credited on a production-cost basis regardless of the market value.

In addition to the stock produced on its own farms, the Commission's steps to encourage private game breeding in the Commonwealth have secured fine results. Through increased distribution of day-old pheasants, and recently quail chicks, sportsmen's organizations and interested individuals have not only been given a larger part in the Commission's work, but they have produced and released far more mature stock in our public hunting coverts than previously.

A series of wild propagation areas have enabled the Commission to produce much better wild turkeys for stocking purposes than heretofore possible; and indications are that in the near future the Commission will be able to trap, from its propagating areas and other restricted grounds, and re-distribute within the Commonwealth sufficient native rabbits to obviate the necessity for purchasing these animals in the Middle West. In this undertaking sportsmen's groups have again been given definite jobs to do in helping to locate areas and manage the program.

Larger quantities of game of various kinds have been purchased and released in recent years than previously, especially imported Hungarian Partridges and locally produced pheasants. Experiments in the mass production of Hungarian Partridges on the State Game Farms have also brought encouraging results, although certain difficulties must still be overcome in order to raise them in quantities comparable to Bobwhite Quail. Prospects for getting these fine game birds established on a shootable basis in the near future are favorable.

Improved Hunter's Licenses—The improved Hunter's Licenses, issued for the first time in 1936, met with universal favor. Each hunter now has in his possession, in one compact unit, his license with the seasons and bag limits, his game-kill report in simple mailable form, and his big game tag if he is fortunate enough to bag either a deer or a bear.

The further improvement of the License Tag for 1938, which assures better and quicker identification in the field, seems to please hunters and landowners. It is recommended that the Commission's present plan to increase the numerals on said tags to one and one-half inches for 1939 be adhered to for the purpose of further improving field identifications whenever the occasion demands.

The collection of the 1937 game-kill reports reached a new high, a total of 88% of the more than 600,000 licensed hunters having voluntarily submitted their reports. The figures on the game kill collected therefrom have clearly indicated that the Commission's former estimates on the annual take of game have invariably been anywhere from 15% to 40% low.

But the most important development in connection with this more complete check-up is the positive proof that in the past there has been entirely too much carelessness and cheating in the issuance of these licenses. Among the worst abuses uncovered have been many non-residents securing resident licenses, aliens obtaining licenses, and residents who have been in the habit of giving false addresses to avoid apprehension. Steps taken by the Department of Revenue to tighten up on the issuance of licenses for 1938 should secure wholesome results, and at the same time they will increase the lawful revenue of the Commission.

Expanded Educational Program—In 1936 the Commission enlarged its educational program. The response among the sportsmen and the general public has been excellent. The press and the radio have aided nobly. The rehabilitation of the Commission's motion picture program has been decidedly helpful, the field lecture service is constantly in demand, and the issuance of several new bulletins has attracted a most favorable Public response.

However, the advancement of the GAME NEWS has been most outstanding. The contents and appearance have been of consistently high quality. The free distribution of the October 1937 GAME NEWS to all licensees, in lieu of other printed literature giving essential information concerning the revised Game Code, served a dual purpose exceptionally well.

The number of regular readers of the Commission's publication has been increasing rapidly. At the beginning of the 1935-1936 biennium there were only 3,063 paid GAME NEWS subscribers. By October of 1936 the paid subscription list had jumped to 12,036. A year later it was 15,885, and on the first of this month it stood at 22,121, or almost eight times the circulation at the beginning of the 1935-36 biennium. Apparently the circulation will continue to increase at an encouraging pace.

Organic Changes—One of the most advanced steps in a decade was the enactment of a completely revised Game Code in 1937, which made important organic changes that have been desirable for some years. The revised code included new and effective safety features for both landowners and hunters; its liberalized provisions have greatly benefitted law-abiding sportsmen; its stringent new features have enabled our officers to apprehend and punish deliberate game law violators who heretofore escaped; and the Commission's enlarged powers to seize licenses of violators in the field and to revoke hunting and trapping privileges of those who are not entitled thereto have improved the morale among our hunters to a marked degree.

Our current efforts to make the fields and forests safer for hunters are being widely commended, and the Commission's aggressive campaign to punish hunters who destroy the landowners' property or injure their livestock while hunting have brought about much improved relations between sportsmen and farmers, and alleviated the posted land problem considerably.

The most important fundamental organic change in the Game Code was the re-establish-

ment of the staggered terms of former years for the Members of the Commission, now on an eight-year basis. This should reduce the turn-over considerably, assure longer service on the part of experienced Commissioners, and better guarantee continuity of sound policies. In this connection it is important to note that during the 42 years the Commission has been in existence only 43 different men have served on it, only two of them, Messrs. John S. Speer and Ross L. Leffler, having left the Commission and later been reappointed.

Two other fundamental changes in the Game Code from the standpoint of maintaining organization integrity and continuity of experienced help were: (1) writing into the law the Commission's long-standing policy against political activity on the part of its employes, and (2) prohibiting the dismissal of any employe without a hearing before an established Trial Board, unless said employe desires to resign.

There were numerous other changes which materially improved the operating mechanics of the Commission, and which make for administrative efficiency.

Operating Economy—During the past three years the general operating efficiency and economy of the entire department have been gradually improved. Numerous savings have been effected without imparing the work.

For example, during the period under review the Commission has been holding only four regular meetings annually instead of monthly as previously. This has reduced travel requirements for the Members as well as saved time for the Staff. During said three years the average annual reduction in travel expenses alone for the Members of the Commission has been well over $1,000 less than during the previous like period.

Another example of saving is the reduction in the amount paid for advertising the annual season and bag-limit regulations. For the seasons of 1933 and 1935 this expenditure ran $9,569.34 and $7,986.06 respectively, with a low amount for 1934. The average annual cost thereof for those three years was $6,900. The highest advertising expenditure of the past three years was 1938, with a total of $4,819.82 due to the antlerless deer season, but the average per year for the latter period was only $4,187, or there was an average annual saving in this one item alone of over $2,700.

The foregoing instances of how funds have been saved under the present management in themselves aggregate annual savings of almost $4,000. Numerous other examples of a similar nature might be cited.

With the increased responsibility imposed upon the headquarters staff during recent years due to the launching of numerous new programs, the office has been handling a volume of work from 25% to 35% greater than previously, without a comparable increase in personnel.

The writer feels confident that this brief review of the Commission's recent activities, and the progress of new programs, will be as heartening to you as it has been to him.

ETHICS FROM THE TRAPLINE

(Continued from Page 11)

In this brief composition of the trapper-hunter problem I have tried primarily to enlighten the dog owner on facts. It is my sincere hope that it was worthwhile. Even those of you who use a foxhound will, I believe, agree. Fox hunters are, as a rule, the most bitter contenders on this subject. This brings to my mind an incident of a former year; it is, however, not to take exception to, because it applies to two fox hunters versus myself. I knew the two boys quite well for several years, and they live in another end of my Clearfield county town for as long as I can remember back. I always had my doubts about their honesty, in fact, I heard on more than one occasion of some of their dirty work, but they were both so good to me that I could not be any different with them.

Well, in the latter part of October I had strung out a fox line to the south of my home, over on the Centre county hills. One morning these boys went out for a hunt over one of these hills; they went out early, naturally, and I started over my line a couple hours later. I took notice that they had parked their car off to the side of a main woods road and then proceeded to walk up a narrow, overgrown tote road which winds around and up onto the mountain. A half mile up there and along this trail I had a fox set and as I approached it I saw that a fox was caught. I searched around and in less time than I can tell this I convinced myself that the fox was taken—stolen; the trap was gone too. Well? Right there and then I turned back, went down the mountain, took notice that the car was still parked and concealed myself in a low thicket of pin oaks about fifty feet in and away from whence I could see all approaches to the mentioned car.

One hour passed, two hours, then it started to drizzle, three hours, four hours, my, what a vigil; five hours passed. I still watched and the gallant boys were car-bound, one throwing his head to one side of the road and then to the other side, his eyes peeled wide open—guilt! The other chap just walked on with eyes to the ground. Nothing bulged from their coats. When they got into the car and were about to leave I hurried out from my place of concealment. "Here, where's my fox?" "What do ya mean—fox? etc., we don't have your fox; we'd hang it up on a tree if we killed one in your traps." Etc., etc. "Come on with me, I'll show you where you got it."

They came along. They tried to reassure me that they would not be like that. They told me where they hunted, their course of travel, and so on. Well, to cut the story short I told them to go on home and that I would get my fox in Harrisburg if nowhere else. Then I followed up their true course of travel further out over the mountain, a bit of fur here and there, a heel mark in other places, then I noticed they turned to another trail which goes down the mountain and meets the same main road. On approaching the main road, ah, a stick laid there. I studied it carefully; a mark! The boys did not dare take the fox any further. I searched around and found my fox concealed by the side of a stump, covered up with ferns. They had nerve enough to carry it that far, just about three-quarters of a mile.

The next morning these fellows were there at five o'clock for their fox; I was there too. Later in the day two game protectors and I paid the boys a visit. The verdict was—guilty.

It is this kind of human predator for which law and law enforcement is necessary; and if he robs a trapline, most certainly he will do anything else.

THE MAIL BAG

(Continued from Page 27)

feel that any of our cats can roam all over these acres without being considered as straying and very often in their roaming over the fields they destroy field mice and moles which is further evidence of their usefulness and God help a gunner that destroys them!

"I think it is particularly regretable that the GAME NEWS does not seem to recognize that there are many, many, like ourselves, that consider cats very necessary and are regarded in many instances as pets. We, as well as others, desiring to protect our cats contribute considerable toward making hunting possible by permitting the general public to roam freely over farm property and should not have any fear that cats will be deliberately shot. I think the GAME NEWS and the Pennsylvania Game Commission should make a very strong appeal to gunners not to molest cats no matter what may be the gunner's attitude toward them and point out to the gunners that were it not for the owners of cats, particularly those that want to protect them, there would not be very many hunting privileges. That I think would be more considerate than the attitude, as has been shown by the GAME NEWS. I can't see why this attitude toward cats has become such an important issue. Nothing is ever said about dogs that roam around over farms. There are dogs, and not any great distance from the property here, that will kill a full grown chicken if given a chance and in all likelihood would kill any small game. That's certain.

"Please do not get the impression that I do not favor gunning of any class notwithstanding that I do not participate in that sport for I have cooperated with the Pennsylvania Game Commission particularly when the project was launched to establish refuges on private property. While I am not the owner of the farm property from which I am writing, it being the property of my wife's parents who were at first very much opposed to signing the agreement with the Pennsylvania Game Commission, I influenced them to do so as I did to others that were inclined to be a little stubborn and my attitude toward the project was clearly demonstrated in a letter I had occasion to write Mr. W. Gard Conklin on December 13, 1937. Of course, the project favors the gunner considerably more than the farm owner but there are some factors that make the farm owner more secure than in years past. I think the policing by the young men appointed on that job is a great help to the farm owner in enforcing the game laws. The posting of signs indicating refuges and forbidden areas too. I think it is a very excellent thing for the farm owner and sincerely trust all these new regulations will be the means of making better sportsmen who seek to enjoy, *within the law*, hunting wild game and those of such, coming within my location, will be accorded the best of treatment and the best hunting ground pointed out."—William C. Schwartz, Kintnersville, Pa.

DEER DAMAGE STUDY PLOTS IN PENNSYLVANIA

(Continued from Page 9)

An examination made of the area in September 1938, indicates that the fenced area is fairly well stocked with trees. For the most part they appear to be healthy. Some weevil damage is observed on the Scotch pines and several of the larger trees were injured by sap suckers. Trees on the north side of the plot appear to be growing better than those on the south side. Considerable natural reproduction of red maple and chestnut is coming in.

The average height of trees on the fenced area is as follows:

Larch	6 ft.	Scotch pine	9.2 ft.
Red pine	9.2 ft.	White spruce	4.7 ft.

On the unfenced, or sample plot, about 10 larch remain which average about 6 feet in height, and one white spruce 28 inches in height was observed. The lone remaining white spruce has been browsed repeatedly and is not yet of a sufficient height to escape damage from this source.

Pike County—Two adjoining areas, one fenced, were laid out in Porter Township, on the Whittaker place, on an abandoned field covered with grass and weeds. Red pine, Japanese larch, white pine, pitch pine, Norway spruce, Scotch pine and white spruce were planted.

During the examination in September 1938, it was found that the trees on the fenced plot have been making excellent growth. The only part of the plot which shows any serious interference is along the southern edge which is being shaded to some extent by birch and aspen which are coming in on the area. Measurements of the trees on the fenced plot in September gave the following data:

White pine	8.5 ft.	White spruce	7.3 ft.
Red pine	11. ft.	Norway spruce	9.3 ft.
Scotch pine	13. ft.	Larch	9.3 ft.
Pitch pine	12.5 ft.		

Practically all of the trees on the unfenced area have been destroyed except along a narrow strip, about 40 feet wide along the edge of the woods in which there are a number of Norway spruce about 2 to 3 feet high. These seedlings have a current growth of about 10 inches and show evidence of browsing during the last few years.

From the evidence obtained it is quite apparent that reforestation is impracticable in this section as long as the deer herd remains as large as it has been during the last ten years.

Huntingdon County—Two adjoining areas, one fenced, of one acre each, were laid out in Logan Township, on the McGuire farm, at the foot of Round Top Mountain, on an abandoned field covered with grass and dewberry vines.

The following species were planted: white pine, red pine, Banks pine, Austrian pine, Scotch pine, pitch pine, Japanese larch and Norway spruce.

An examination made in September 1938, disclosed that the trees on the unfenced area are hopelessly browsed back and except for about one-half dozen Banks pine there are none large enough to escape damage of the terminal buds by deer browsing.

Of the few trees remaining the following heights were observed:

Larch	5 ft.	Red pine	2 ft.
Scotch pine	2 ft.	White pine	1½ ft.
Norway spruce	1½ ft.	Banks pine	6 ft.

On the fenced area there is an establishment of about 75%. In this area the following average heights were observed:

Banks pine	15 ft.	Scotch pine	8 ft.
Red pine	5 ft.	Pitch pine	5 ft.
White pine	5 ft.		

The condition of the few remaining trees outside the deer proof fence indicates rather plainly that reforestation without protection from deer is impractical in this locality.

In addition to the study plots above mentioned, three other plots in 1930 were planted and fenced; with a smaller unfenced area planted adjoining.

The first area was located near Red Run, along the Lincoln farm in Gibson Township, Elk County. It comprised a total of 14 acres enclosed by a deer proof fence. An additional 7 acres outside the fence were planted. The species used were Scotch pine, red pine, Norway spruce, Japanese larch and some white ash and red oak. Both inside and outside the fence, aspen and fire cherry were removed to facilitate the planting.

The inspection of the area in September 1938 showed that the rate of stocking is decidedly better on the fenced area than it is on the unfenced area, however, the total height growth is practically the same on the two plots.

Another plot was located along the McGeorge road, Lawrence Township, Clearfield County. An area of 40 acres was fenced and planted with a small area planted on the outside and left unfenced. The species used were white pine, red pine, pitch pine, Japanese larch.

An inspection of this area made in September 1938, indicated that there is a stocking of about 80% on the fenced area. The trees have been damaged considerably by weevil but the stocking is sufficient to form a full stand of trees on the area if no unforseen damage occurs. On the unfenced plot a few scattered larch, Scotch and red pine remain. All of the Scotch and red pine have been heavily browsed by deer and are from 2 to 4½ feet in height. Larch have also been damaged but not to as great an extent as the pine. The larch are from 3 to 7½ feet in height. The stocking is considerably less than 15% of a full stand. On this area all tender twigs have been heavily browsed by deer, particularly the red maple sprouts.

The third plot, located near the Home Wood Club, along Cooks Run, in East Keating Township, Elk County, was planted with red pine, Japanese larch, Scotch pine, Norway spruce and hardwood seedlings. An area of five acres was planted and fenced, and in addition an area of one-half acre was planted outside the deer-proof fence using Norway spruce and Scotch pine seedlings.

An inspection of the area made in September 1938, disclosed that the trees on the unfenced plots have been completely destroyed; there being about one-half dozen trees left in the plot, all of which are severely browsed by deer and are less than 10 inches in height. Inside the fenced area a fair stand of planted trees is in evidence, probably about 75%. An inspection revealed the following total heights:

Norway spruce ...	10.8 ft.	Red pine	4.6 ft.
White pine	4.3 ft.	Larch	6.3 ft.
Scotch pine	5.3 ft.		

Only the results of the examinations of the experimental plots, made during 1938, have been listed, but these as well as reports made of investigations during previous years, indicate rather clearly that it is almost useless to attempt to establish forest tree plantations in the areas where the plots have been located, provided the deer herd remains as large as it has been since those plots were established in 1929. In many of these areas forest tree planting has been discontinued because it is considered impracticable due to the excessive damage by deer.

Not only have most of the planted evergreens been destroyed on the unfenced areas, but the natural growth, likewise has been browsed so heavily that there is very little chance of a satisfactory stand of trees becoming established on these areas unless a reduction is made in the number of deer.

There is no question but that the natural growth in the forests of Pennsylvania provides an excellent and balanced food diet for deer. Furthermore, Pennsylvania forests are capable of supplying an adequate food supply if the herd remains at an optimum population and does not increase beyond the capacity of the natural growth to provide food.

In many sections of Pennsylvania where deer are too abundant they exhaust their supply of summer food early and are forced to begin eating their winter food before the normal time. Consequently, many of them are unable to find food at all during the later winter months, and many die of starvation or succumb to under-nourishment which permits access of fatal diseases. The scarcity of food in many places in Pennsylvania has become so acute that the deer are forced to skin off the bark of the sumac, devil's club, mountain ash, and other species upon which fruit is produced which provide grouse and other game with winter food supplies.

Deer appear to be willing to try out new kinds of food. On the other hand they are very loath to seek out new feeding grounds. In other words, a deer herd which to begin with may be entirely too large to be supported adequately on the available growth in a locality, will remain and live in that region on a starvation diet rather than seek out new feeding areas even within a few miles of their home range.

An example of this condition may be found in many parts of the State where there is evidence that the deer have practically exhausted the food supply to such an extent that there is a clearly marked deer line appromimately 6 feet above the ground, showing that the deer have eaten all vegetation as high as they can reach. Quite often adjoining tracts which provide almost identical kinds and conditions of food have apparently been browsed very little.

A ruminant and browsing animal, and not a grazing or grass-eating animal normally, the deer feeds upon vegetable matter entirely. The leaves, buds, and tender twigs of shrubs and trees provide its regular diet and the bulk of its food, especially during the summer, spring and fall seasons. In the oak-chestnut forest type where there are large trees, nuts provide good food in the fall. It has been noticed that practically all species of the common trees and shrubs in Pennsylvania are at times browsed by deer. Because the plant food of deer is so extremely varied it is believed that practically no woody plants common to the State are rejected by the deer as food. However, observations made throughout the State indicate that a few woody plants are used for food only when others are not available.

As a general rule planted evergreens are not damaged except in areas where an over-abundance of deer has resulted in the partial elimination of their normal browse. In order to insure success of these planted areas, as well as to provide for sufficient natural reproduction to perpetuate the woodland, it is imperative that the herd be kept down to the limit of the range necessary to supply it with sufficient food. The forests should be made to produce an adequate supply of timber as well as sufficient number of deer for sport. This can be done by managing the deer herd not only from the standpoint of protecting it, but also of controlling the numbers within the carrying capacity of the forest.

HELL AND HIGH TIMBER

(Continued from Page 5)

and hygrometer readings show that the litter under the trees is bone-dry. Furthermore, the weather report predicts increasing winds, no rain in sight. He gives the alarm.

Almost at once the fire truck shoots out through the swinging firehouse doors. From Eagle, fifty miles away, a patrol plane starts for the scene. In the wake of the fire truck are the truckloads of men, camp equipment, first-aid tent, extra tools, food—five pounds a man per day. More and more men follow, all strong enough to work twelve hours a day cutting down trees, digging fire lines down to mineral soil, hacking out underbrush, working day and night amid terriffic heat, choking smoke, constant danger, possible death. Men hurrying to war. . . .

Late that afternoon a siren sounds; the CCC camp at Summit springs to life. Boys just back from the day's work rush down the company street, tucking flapping shirt-tails into their pants, shouldering backward into blue jumpers as they clamber into the waiting trucks loaded with their stand-by equipment of shovels and axes and water packs. The trucks roar; they rock away over the forest road. The thing has blown up during the afternoon. It's a crown fire now, racing through the treetops swifter than the wind.

At midnight a warden's car shrieks to a halt in the dirt yard in front of a sleeping ranch house, the horn tied down. The rancher and his older son rush out and jump into the warden's car, the rancher's wife and his younger boy begin to pile a few pieces of furniture and bedding into the ranch wagon and hitch up the nervous horses, heading to town for safety. There is a red glow in the sky, and the wind coming toward them has a sickening sweetish smell. It's heading this way . . . .

Now the wind is getting stronger, and hotter, and smoke stings the eyes, and in the distance there is a steady ripping sound, like canvas being torn sharply, and now and then short explosions like rifle shots. The gray smoke is flecked with red patches that brighten, and fade, and suddenly burst through the clouds like forks of lightning. The rancher's wife swings her whip at the backs of the horses, the wagon careens ahead of the flame.

Wild animals are pounding past them in the smoke. A fawn falters in the road and stumbles and rolls over, the doe halting and bleating beside her. A rabbit rushes directly toward the fire, leaps convulsively into a tight ball of flame, topples backward. The rancher's wife glances over her shoulder, stands up in the wagon and yells at the stumbling horses. She cannot hear herself in the increasing roar. A spark lights on the blanket wrapped around the baby beside her. . . .

Men coming off the fire lines day after day, half-naked men with blackened faces, and eyebrows burned off and shirts hanging in shreads from their blistered shoulders. Men falling exhausted on the thin mattresses, too tired to move, while other men slip the water tanks from their backs and struggle into them and head for the fire lines on the run. Ambulances clanging up through the thick smoke, empty stretchers rushed into the heat and borne out again more slowly.

Day after day, all that week, on into the next. Emergency calls for more men, shovels, food, bandages, help of any kind. Soup kitchens established. Airplanes, radio, telephones, the National Guard called out, martial law enforced. Two towns, Black Snake and Windfall, leveled by flames. Several townships burned over so far. A million dollars in virgin timber destroyed. Four lives lost . . . .

" . . . Burned over all that nice country where we were," Mr. George Spelvin shrugs, looking up from his evening newspaper. "Lucky thing we visited it in time. You know," he muses, flicking his cigarette stub toward the fireplace with a practiced snap of his middle finger, "I wonder how these fires ever get started."

"George, be careful where you throw that cigarette," says his wife sternly. "You want to burn a hole in the rug?"

If George Spelvin were to stroll through a wartime munitions plant, the floor strewn with spilled powder, the kegs of dynamite standing open, the cans of TNT uncovered, hydrogen gas seeping through the air, bomb fuses exposed on all sides, and if he were to flip his cigarette heedlessly over his shoulder without even a glance to see where it landed, Mr. Spelvin would be clapped into a strait jacket at once, provided there were enough of him left to scrape together.

But the average tourist or camper, wandering aimlessly through one of our National Forests, or enjoying a pleasant communion with nature in some wooded glen during a particularly dry spell in July or August, is traveling in a powder factory just as easy to blow up but infinitely harder ever to replace. Those pine needles and dry leaves are as inflamable as gunpowder; the heaps of slash are time bombs; the cool glades and majestic pine-clad hills can become in an incredibly short time a death-dealing inferno, taking a staggering annual toll.

This year, for example, Mr. George Spelvin's cigarette—or his cigar butt, or an unextinguished match, or a smoldering coal from his pipe, or a campfire he didn't quite put out, or a patch of ground he tried to burn over during a high wind—will cause over 150,000 forest fires in the United States. These fires will devastate more than forty million acres of privately owned timberlands, as well as another half-million acres in our closely guarded National Forests.

This year, thanks to Mr. Spelvin's carelessness—for it has been established that over ninety per cent of all forest fires in the United States are man-caused, and therefore preventable—this country will lose fifty million dollars in timber alone. The losses it will suffer in potential young growth killed, in watersheds ruined, in ensuing floods and silted streams and hillsides gullied beyond control, in barren soil, in wildlife resources wiped out, in industry stopped, in tourist and recreational possibilities gone, can never be estimated.

This year—if Mr. Spelvin's average holds—something like fifteen billion board feet of timber will be destroyed, enough to build five-room frame houses that would accommodate half the population of the City of New York.

This year the game and fish that will be killed by fire—with the uncontrolled destruction of future cover and forage, of nests of ground birds and waterfowl, of spawning grounds for trout—will equal the toll of all the hunters' guns and anglers' hooks combined.

Walk out into one of these freshly burned areas. Spend an hour forcing your way across the wasteland of drab gray ashes and smoldering snags. Mile after mile the charred trees are piled like jackstraws. Rocks and ledges stand out starkly, bare of leaves and moss, the topsoil gone. At the bottom of a gully winds a sluggish brown stream, the water poisoned with lye washed from the acres of ashes, a few fish floating belly up. A bloated carcass of a moose lies against the bank, crawling with bluebottles, its legs burned off to the hocks. A lone hawk wheels against the sky for a moment, the only sign of life. It veers, and glides away. . . .

Throw that cigarette anywhere you want. It doesn't matter where you flip it now. There isn't anything left out here to burn. There won't be for another hundred years. . . .

The forests belong to you. If they are destroyed, the chances are, nine out of ten, it will be your fault. So, if you are going to travel in the woods this summer, be careful with your cigarette, your pipe, your match, your campfire.

CAMPING

By ROBERT E. PINKERTON

Reprinted from "National Sportsman"

How Not to Get Lost

GETTING lost has been discussed several times in this department. Perhaps nothing new can be said. But new hunters and new campers are crowding in, more and more people are finding recreation in the outdoors, and this fall newspapers will have the usual stories of narrow escapes and of the inevitable tragedies.

The deer season usually comes in a time of cold rain, snow, and heavy frosts. In summer a man who is lost may go hungry, but he will not die from exposure. Colder weather results in frozen feet, sapping of energy through lying out in the snow and wet, and lowering of resistance to a point where disease germs get in their deadly work.

Men still insist on going into the fall woods without knowing the territory, without studying a map, without learning the basic principles of wilderness travel, without mental preparation against disastrous panic, without carrying the few simple means of preserving life if they do become lost.

The rules are simple. Study a map until you can draw it perfectly from memory. Learn every lake, watershed, stream. Obtain from natives a description of the unusual landmarks, characteristics of creeks and ridges. Learn the geological formation of the district, the dip and direction of strata, presence and limits of sand or clay belts. Know limits of swamps, muskeg, heavy timber, cut-over land. Learn direction and length of old logging or other roads, of trails. Ask about burns and section lines. In other words, learn the lay of the land before you enter it.

Do not think that being lost is merely straying from something familiar. Get rid of the idea that you are an Indian and can remember every bush, tree, and rock. The Indian's mind was trained far better than yours for that sort of thing. Quit paying attention to small details, in fact. Simply because you are unable to locate yourself within a few yards or even a mile or two, there is no reason to believe you are lost. You are still in the same State, perhaps the same county. You know you are within the big triangle between a large river and its principal branch. You know the river runs south and the creek comes in from the northeast. You are between the two, and camp is at the fork. The fact that you do not know whether the river is one or two miles west of you does not mean you are lost.

As we have pointed out before, the crucial instant in practically all cases of a lost hunter or camper is when he realizes that he is lost, or decides that he is, and then promptly goes into a tailspin. That panic is devastating. It turns a reasonably intelligent man into a frightened, panicky animal. He immediately proceeds to do everything wrong, make rescue difficult, and to disregard all factors that tend to his own comfort and preservation. Don't kid yourself if you have never been in that situation. No one knows if he is immune until he has faced it.

About the only way to guard against this panic is to think about it a great deal, lay efficient plans in which you have perfect confidence, have adequate equipment and a complete faith that the situation is only about one per cent as bad as it seems. The game can be beaten, and beaten easily. But if you start running through the woods, shrieking, luck alone will save you.

Wear woolen socks and wollen underclothes. Have all clothing of wool if in a cold or wet country. If you are thus equipped, rain and snow and cold are more successfully resisted. Keep plenty of matches in a waterproof container. Carry a compass only if you know how to use it. If you know nothing about the declination of the magnetic needle, nothing of how or why a compass operates, or how it may be affected in handling, don't bother to carry one. It won't help you, and may lead you into further difficulties. If you do carry a compass and know how to use it, have faith in the instrument. Remember that a compass does not worry or become panicky.

Carry a roll of snare wire. In grouse country it is not a bad idea to pack a .22 target pistol or revolver. Wear a belt ax and heavy, sharp knife. Even a fish hook and some line inside your hat band may not come amiss. The thing to remember, if you really are lost and cannot get to camp or back to civilization, is that someone is coming to look for you. In this CCC age, several hundred searchers may join the hunt. All you need do is get enough food to sustain life until they find you.

Don't wait for extreme hunger to force you to eat muskrat, porcupine, woodchuck, hawk, mudhen, owl, or anything else you can knock over. The idea is to keep your strength up, give your body plenty of heat.

Don't travel until dark before making preparations for the night. If weather is bad, stop early enough to gather a big supply of fuel and erect some sort of shelter, with a good bough bed beneath it. You can get along nicely without bedding if you have a big all-night fire.

Make an adventure of getting lost. Get mad and tell the wilderness it can't beat you. Let the searchers find you a pound or two heavier and quite content. Don't feel ashamed of gettng lost. That has caused many a tragedy. And if you do feel ashamed, remember that it is a lot better to come out with a red face than on a stretcher.

For Autumn Appetites

A grub list for fall camping, especially in deer season, is essentially different from one for a summer trip. In warm weather too many fats may prove a disadvantage. In mild temperatures there is no necessity to feed fuel into the human boiler to combat cold. Hot days cut down activity, too, and the demand for food.

Cold weather brings an entirely different situation. Activity is greater and body wastage consequently increased. More body heat is required for keeping warm. Rain, snow, and freezing temperatures drain energy. Fats and carbohydrates supply energy and heat for the body, which is why well-baked beans, with plenty of sugar and big hunks of salt pork, made an ideal fall camp food. Meat furnishes fats and proteins, the latter also in greater demand as body tissues are broken down.

Thus, a fall grub list will lean heavily to pork fats, beans, dried peas, canned milk, sugers in sauce, pies and cakes, even candy. Stews with cubed and browned meat and plenty of vegetables and thickened gravy are most acceptable.

THE GOVERNOR ON CONSERVATION

(Continued from Page 4)

gation in such waters from physical obstructions, and I believe it to be just as logical to legislate to protect the *quality* of the water.

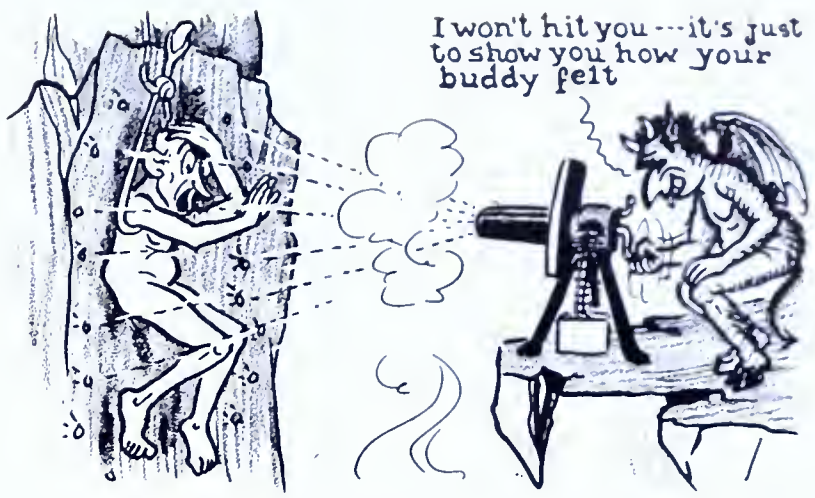
Such a program should include adequate administrative boards, preferably on a watershed basis, and must have sufficient teeth in it to bring into line that willful minority which might block an orderly program of cleaning up the nation's waters.

I am proud of the conservation accomplishments of the past four years here in Pennsylvania. And whatever my lot in life or wherever I shall be, I shall always do my bit to further this program so well begun.

In addition to the strictly economic aspect of intelligent conservation, we must recognize the fact that as our people increase in numbers, leisure and ease of transportation, we must provide facilities for wholesome associations during that leisure. Pymatuning is a monument to its sponsors and administrators. The State and the nation need more similar projects. Public demand for them is unlimited.



SUITABLE PUNISHMENT for anyone who turns a house cat loose in the woods to kill game or starve ----

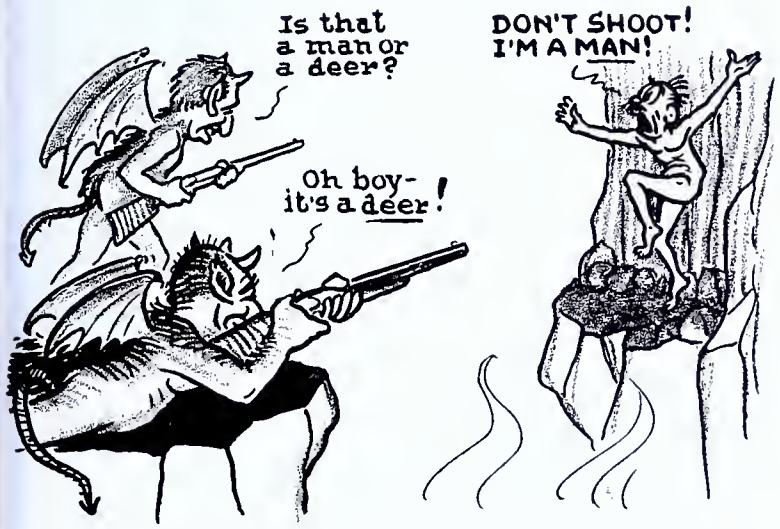


---for the man who pumps a magazine load of hot lead toward his buddy in mistake for a deer---



~Reward of Conservation~

Hy Cage



----for the gunner who mistook man for deer



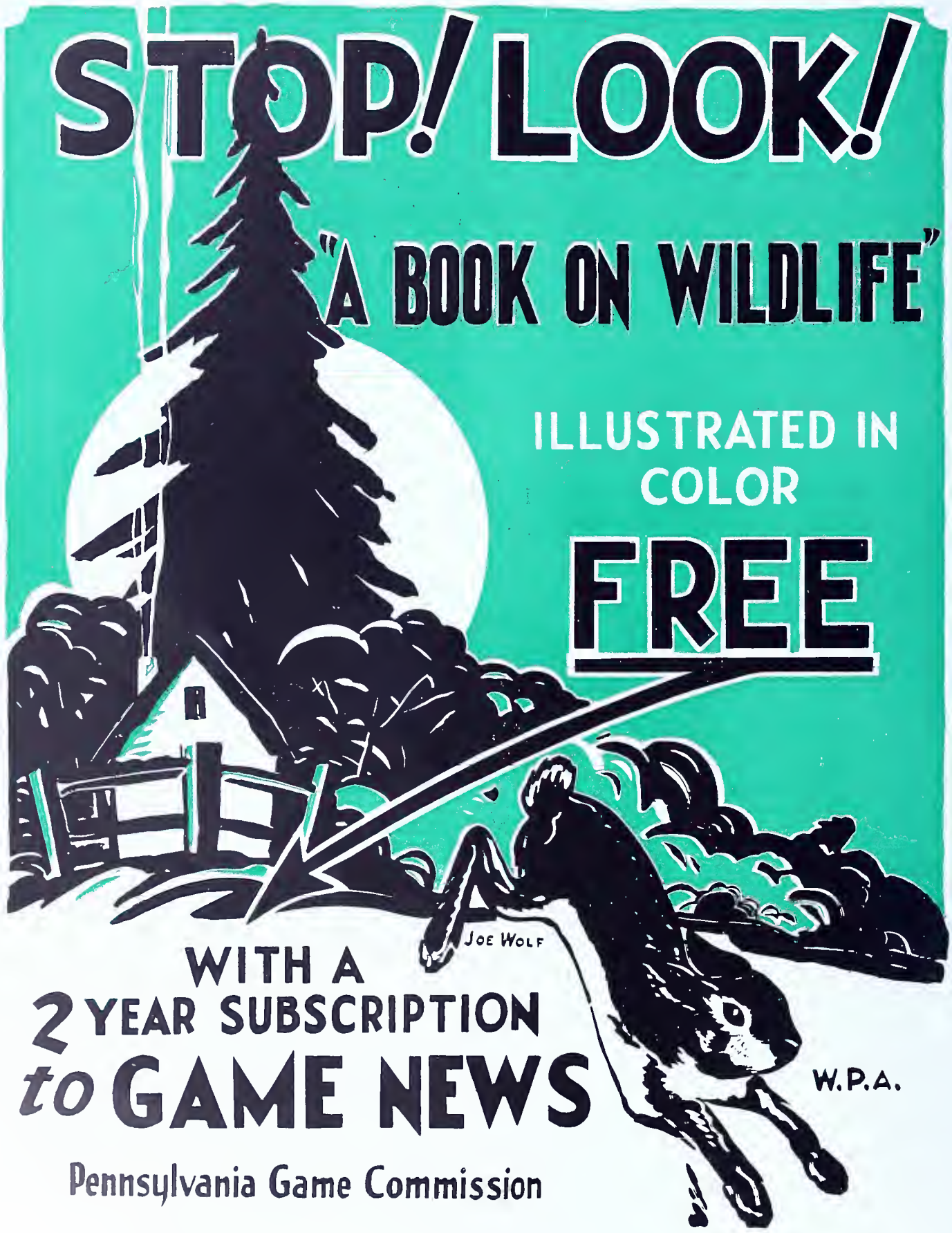
---and the pest who fires the woods through criminal carelessness

STOP! LOOK!

"A BOOK ON WILDLIFE"

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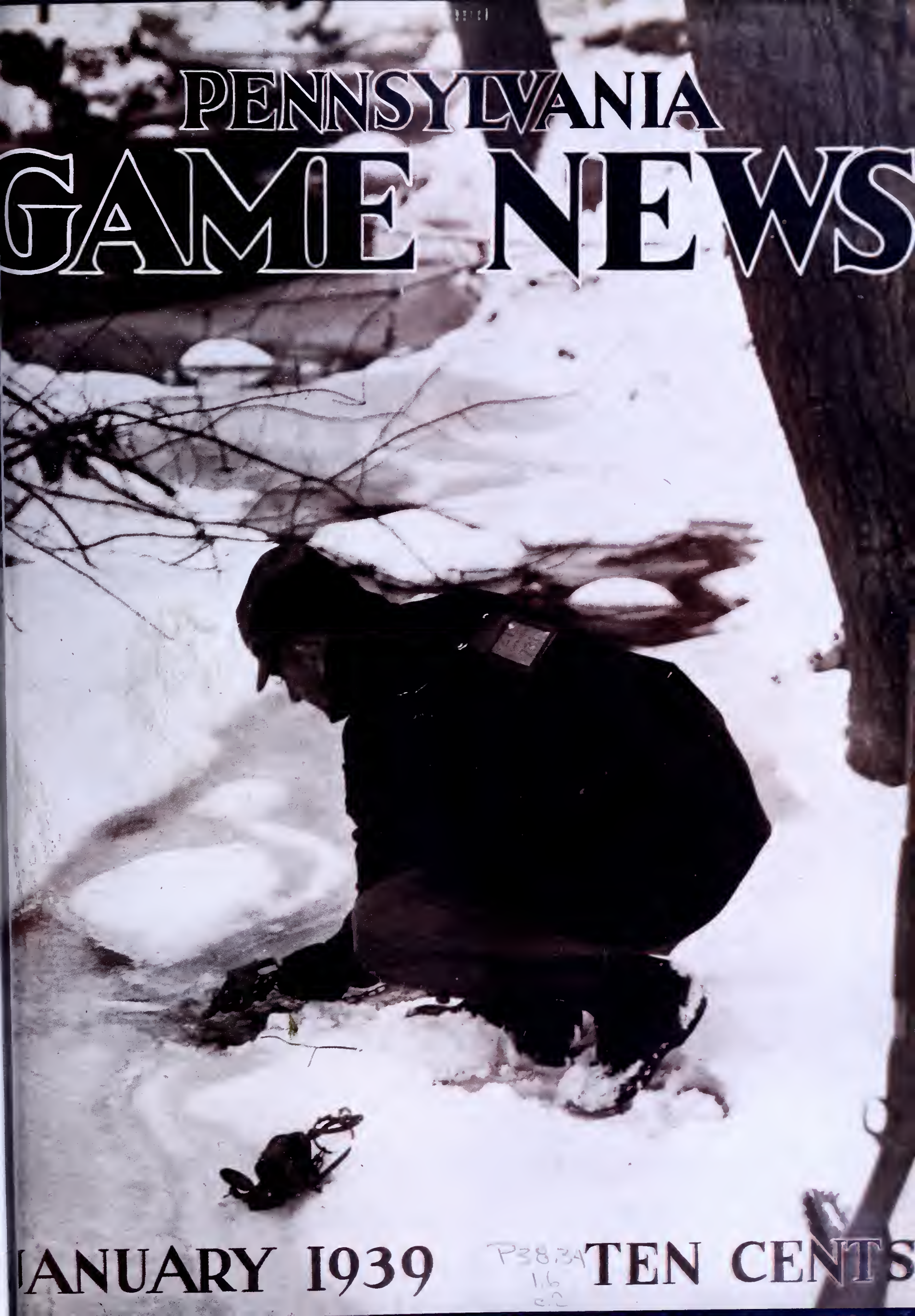
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Pennsylvania Game Commission

PENNSYLVANIA GAME NEWS



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PENNSYLVANIA GAME NEWS

Published monthly at Front and Reno Sts., New Cumberland, Pa., for Pennsylvania Game Commission, Harrisburg, Pa.
Executive and Editorial Offices, Commonwealth of Pennsylvania, Pennsylvania Game Commission, Harrisburg, Pa.

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Material for each issue should be submitted not later than the FIRST OF EACH PRECEDING MONTH.

Permission to reprint will be granted provided proper credit is given.

Entered as second class matter at the Post Office of New Cumberland, Pa., under Act of March 3, 1879.

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Vol. IX, No. 10

EDITORIAL

January, 1939

CONVERSATION OR CONSERVATION?

JUST as the curtain drops on the final act amid the thundering applause of an enthusiastic play-going audience, so has come to a close one of the greatest hunting seasons for both large and small game in Pennsylvania for many years. At least that seems to be the general opinion among most of the hunters throughout the Commonwealth.

Small game, particularly rabbits and ringneck pheasants, were unusually abundant, and other popular species such as grouse, quail, wild turkeys and squirrels showed up remarkably well despite the fact that their ranks had been alarmingly depleted by the severe winter of 1935, and the subsequent sleet storms and floods in the spring of 1936. Gratifying too is the fact that there is apparently a fine lot of small game seed stock remaining. This is occasioned on the one hand by the unusual abundance of certain species, and on the other by the fact that so many hunters upheld the true ideals of good sportsmanship by refusing to shoot the limit.

The antlerless deer season, according to early reports available when this was written, went off exceptionally well, notwithstanding the heartaches of those who unintentionally killed deer with visible antlers or horns. Unfortunately too many hunters took chances at unreasonable ranges. However, there seems to be no way to avoid these errors in judgment. The fact that so many of these hunters reported their own mistakes and paid their $50.00 speaks volumes for the high degree of true sportsmanship evidenced on all sides.

True, there were entirely too many instances of deliberate, illegal and lawless shooting, but in view of the general good law observance which was manifested by the vast majority of sportsmen, these violations have had no serious effect on the remaining supply.

The problem now before the sportsmen, especially in view of early heavy snows, is to feed and protect the seed stock of our game which remains. In other words, the show is not over, and their enjoyment must not cease with the dropping of the final curtain. There is an important sequel to the play in which they took such a successful part. They dare not let their enthusiasm wane, either individually or collectively.

To enjoy good hunting next season they must accelerate their plans for an intensive winter feeding campaign—Act I of the sequel. It is not always easy for a hunter to contemplate a trek through the deep snow with a sack of grain on his shoulder and an axe in his hand, and he may shudder inwardly at the mere thought of such a foray. Too often he feels that after he cleans and puts his gun away at the end of the season his responsibilities are ended. What a sad misconception of the true spirit of conservation! Even among sportsmen's associations there are always those who would rather practice conversation than conservation, and were it not for the foresightedness of thousands of active members game would be hard put during severe winters—and there would be infinitely less in the coverts ere another season rolled around. You can't feed game just talking about it. Deeds speak louder than words!

Every sportsman should regard himself as a business man, and while hunting from the standpoint of his ethics is by no means a commercial proposition, he must realize that the bag taken annually is a result of effort, either financial or physical. In other words, he's in the business of assuring for himself a continued supply of game from one season to another; therefore he must protect and feed his seed stock when natural food is scarce, or when it is covered with deep snow.

Likewise, he must guard that remaining supply against encroachment of winged and four-footed predators. Game has many enemies. Predators have comparatively few, of which Man is probably the most aggressive. Every sportsman owes it to himself, to his fellow hunters, and above all to the game itself, to make predator control Act II in the sequel. When the curtain is rung down on the second part of the play let him not find himself lacking or having failed to play his part well.

In the closing scene of the sequel, as Old King Winter lays his white mantle over the fields and woodlands, and when life becomes a drama indeed for creatures of the wild, may every hunter symbolize the spirit of sportsmanship by imparting its ideals to those who have not yet learned the proper ethics of rod and gun to the end that the younger generation—the sportsmen of tomorrow—will have caught the same fine spirit, thus making it possible for these young people to acquire and uphold the traditions of the finest and most wholesome sport in the world—HUNTING.

BIG BUSINESS

THE scenes enacted in Pennsylvania probably were without parallel since the days the buffalo roamed the plains of the west and the white man and the red took what they wanted.

The best estimates are that a minimum of 5,000 antlerless deer were killed in an area approximating a 50-mile radius of Oil City. There are five days of the season left. But all the authorities agree that a kill of these proportions is a good thing for the herd, for the sport and for those whose farms have been feeling the drain of feeding a heavy excess of female deer.

Five thousand animals of an average weight of 100 pounds means half a million pounds, or 250 tons of meat. At five cents a pound this is $25,000 worth of good food. To many a poor family this comes as a Godsend. It is probable that the kill in the State for the six days will total 150,000, equivalent to 7,500 tons, a really substantial contribution to the food supply of the state and to its wealth.

When we estimate the total business furnished by guns, ammunition, licenses and outfits, the wear and tear on cars and the gas and oil consumed, for which we have no figures, we must conclude that the wildlife industry in Pennsylvania has reached the stage of big business. It is well handled by the authorities and properly respected by the hunting fraternity. When out of this enormous kill in this vicinity only about 15 illegal cases are reported in Venango county, it is a tribute to the effectiveness of such organizations as the Bucktails and the good sportsmanship of the hunting public.

This year conditions were ideal. The weather was just right and the snow extremely useful. Also the does escaping slaughter for the past three years were easy prey for the marksmen. They will be more wary during the remainder of the season. But what is particularly gratifying is that with an army of hunters in the field not a single case of accidental shooting was reported in this vicinity, indicating that the hunters went out with a due sense of responsibility. It was a field day for the sportsmen. —*The Oil City Derrick.*

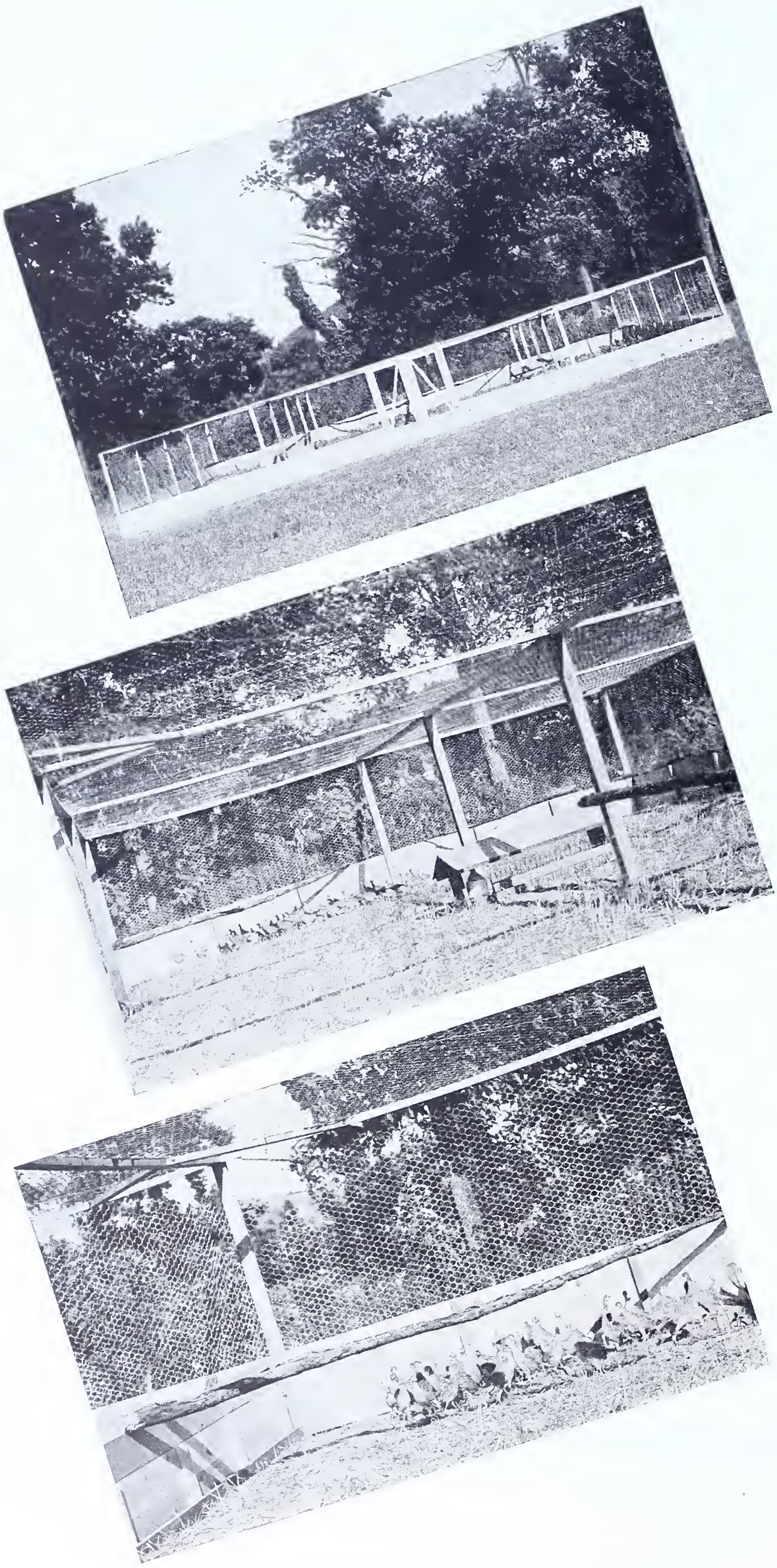
Part Payment

by ROBERT F. KEAGLE

With hunting season over and guns all put away
No sportsman needs to feel his work is done;
It was very fine in season to enjoy the quest for game
But now the time for payment has begun.
For hunger stalks the out-of-doors and desolation rules
Where lately plenty reigned with lavish hand
So a task confronts the sportsman, a challenge to each one,
That should the heart of every man expand.
The rabbit and the ringneck the ruffed-grouse and the quail,
That escape the hunter's gun, needs help from you;
The doe deer in the thickets weakened by the cold
Needs food if she can hope to winter thru.
Go out to these enhungered ones and ease their suffering
And thus a real appreciation show,
Then reap the satisfaction that will be justly yours
For having paid a part of what you owe.



WHEN DUTY CALLS . . .



Approved type, double holding pen for Ringneck Pheasants. Size, 48′ x 48′. Capacity, 100 birds.

Interior view of approved type, single Ringneck Pheasant holding pen. Size 24′ x 48′. Capacity 50 birds.

It is important to place large roosts across corners of the pens.

• THE

IN an endeavor to increase the distribution of Ringneck Pheasants in counties suited to them throughout the state, and supplementing a maximum game bird production on the State Game Farms, the Game Commission has adopted a policy providing for the distribution of six-week old pheasants to sportsmen's organizations for further rearing.

A limited distribution of these birds to those organizations providing approved type holding pens and operating under special regulations has been authorized by the Commission to begin during the season of 1939.

The six-week old pheasant program will supplement and not replace the Commission's present policy of distributing day-old Ringneck Pheasant chicks to approved applicants. Applications for both can only be obtained from and filed with the District Game Protector.

Six-week old pheasants, in limited numbers, will be distributed under the following rules and regulations, and applications will be honored within the county quota, in the order received.

RULES AND REGULATIONS

Applications and Eligibility

1. Six-week old pheasants are available only to regular Sportsmen's Organizations, working in the public interest, *preferably County-wide Federations*, upon application from authorized representatives. No six-week old pheasants will be shipped to individuals or other organizations.

2. All applications must be secured from and filed with the District Game Protector, *in duplicate*, between January first and March first of each year.

3. Applications received after March first will be placed on a "Supplementary Shipping List" with no guarantee of delivery.

4. Applications are required to construct holding pens in accordance with the Game Commission's specifications. *Construction of these pens to be completed before* applications can be approved. Working drawings of approved type pens are available on application to the District Game Protector only. Pens of any other type or size *will not be approved.*

5. Applications will not be accepted from Counties unsuited to Ringneck Pheasants, and where it is known that a shootable supply of such birds cannot be developed and maintained.

6. No less than 50 and no more than 300 birds will be permitted to any one organization, except in the case of Federated Counties

SIX-WEEK OLD PHEASANT PROGRAM

How the Game Commission Will Distribute Young Birds for Rearing by Sportsmen

By CHARLES W. WESSELL

where a maximum of 1000 birds to a County-wide Organization will be allowed.

Rules for Holding Birds

1. Six-week old pheasants will be shipped *charges collect* or may be called for at designated State Farm.

2. All feed and other expenses (including transportation charges) incurred in connection with holding six-week old pheasants are assumed by the applicant.

3. Excepting the first season, when high quality sod would be acceptable, the soil inside holding pens must be thoroughly limed and turned over in the spring of each year. Clover or rape (or both) *must be sown* therein and Manchu soja beans, buckwheat, timothy, millet, sunflower, kafir corn and field corn can be added.

4. Complete sanitation must be practised and maintained in and around the pens at all times.

Liberations and Reports

1. No birds shall be liberated under 12 weeks old and all birds liberated must be *sound, healthy* and *full-winged.*

2. No more than 50 per cent of the total birds received may be held in pens after reaching the age of 16 weeks. The balance may be held no later than March 20th.

3. All birds shall be liberated in cooperation with the District Game Protector prior to March 20th, and he or his accredited representative *is required to be present* when liberations are made. The District Game Protector shall inspect all birds at the time of liberation.

4. All birds raised *must be liberated on lands open to public hunting.*

5. *Report forms* will be furnished with each application blank, to be completely filled out and *returned to the District Game Protector, after all birds have been liberated.* These reports to be filed prior to April first.

6. Applicants failing to return complete reports of birds liberated *will not be eligible* to receive future shipments of six-week old pheasants from the Game Commission.

General Provisions

1. The Game Commission reserves the right to reject or cancel the application of any Organization failing to adhere to the foregoing rules and regulations.

2. As distribution of six-week old pheasants is dependent upon State Game Farm production and based upon County quotas, the Commission reserves the right to reject new applications received after quotas are filled, and to reduce allocations of birds to approved applicants if and when Game Farm production shall fall below calculations.

HOW TO REAR SIX-WEEK OLD PHEASANTS

Common sense, sanitation, regularity and a willingness to follow instructions carefully are all that is required for successfully rearing six-week old Ringneck Pheasants to varying ages of from 12 weeks to maturity, and for holding them over the winter for spring liberation.

Pheasants at six weeks of age have attained their first complete feathering and no longer require the protection of brooders, brooder houses, etc. The birds are ready, at this age, to be placed in holding pens constructed on ground which *has never been used for poultry,* and which contains a good rich crop sown as described below.

The Holding Pens

Approved type holding pens, designed by the Commission and described as single (50 bird size, 24′ x 48′) and double (100 bird size, 48′ x 48′) *must be constructed in accordance with working drawings furnished on application to your District Game Protector.* In cases where more than 100 birds are to be reared single or double sections may be added to accomodate the number or birds applied for. Photographs of both single and double pens are shown on the accompanying pages.

The pens must be constructed on rich, well drained soil (sandy loam is best) and on fresh ground which has *never been contaminated in any manner.*

After the first season, during which high quality sod will be acceptable, the soil inside holding pens must be thoroughly limed and turned over in the spring of each year. Clover or rape (or both) must be sown therein, and strips of sunflower, field corn and buckwheat should be added. Manchu soja beans, timothy, millet and kafir corn are also beneficial. These sowings are very important to the health and well being of your birds.

A good quality green creosote shingle stain is recommended as the best and most economical preservative with which to paint your pens. This should be done, of course, before the wire netting is put on.

Care and Feeding

With your pens erected and the ground therein in readiness, you now prepare for receiving your birds.

At least two feed and water shelters of the type shown in the accompanying photograph should be provided for each 50-bird pen (24′ x 48′), together with two "no-bill" feeders and two 1-gallon glazed water fountains. A 100-bird pen (48′ x 48′) will require double that number, and so on. Complete details for constructing these shelters and obtaining the feeder and fountain are shown on the working drawings.

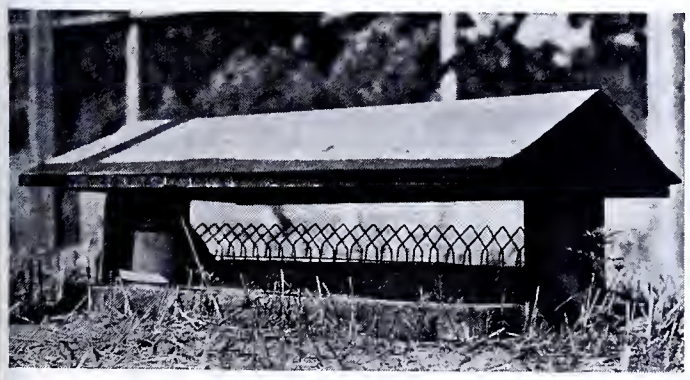
Large roosts, as shown in the accompanying illustration should be placed across the corners of the pens. These provide havens of escape for birds bullied by the larger ones and will be frequently used by all birds for drying off after rains and heavy storms.

When your pheasants arrive, place the shipping containers inside the pens, opening them enough to permit the birds to escape. Then back out of the pen, allowing the birds to come out at their leisure. They will soon make themselves "at home". Do not frighten and confuse them by shaking them out or pounding on the container.

Your feeders should be filled half full of

(Continued on Page 30)

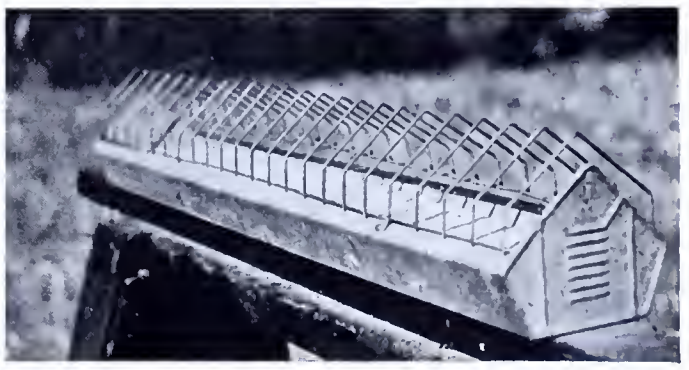
Approved type shelter for feeder and water fountain.



Glazed, earthenware water fountains are best and insure sanitation.



This "No-Bill" type feeder reduces feed waste to a minimum and permits a maximum number of birds to feed at one time.





Report on the Food

By JOHN R. LANGENBACH and ROBERT D. McDOWELL
Division of Game Research and Distribution

TABLE I

Method of Kill

	Male			Female			Sex Unknown			Totals	
	Mature	*Fledg.*	*%*	*Mature*	*Fledg.*	*%*	*Mature*	*Fledg.*	*%*	*No.*	*%*
Shot	214	...	54.3	223	...	62.4	18	...	39.1	455	57.4
Trapped	149	...	37.8	94	...	27.4	2	...	4.4	245	30.9
Miscellaneous	6	25	7.9	10	25	10.2	5	21	56.5	92	11.7
Total	369	25	100.0	327	25	100.0	25	21	100.0	792	100.0
% of Total	46.9	3.2	...	41.3	3.2	...	3.2	2.5	...	100.0	....

TABLE II

STOMACHS WITH FOOD

(No Fledglings included)

	Males				Females				Unknown	
Month	Shot	Trapped	Unknown	Total	Shot	Trapped	Unknown	Total	Shot	Total
Nov.	63	7	1	71	49	8	1	58	2	131
Dec.	7	16	1	24	11	15	...	26	...	50
Jan.	5	18	...	23	9	14	...	23	...	46
Feb.	13	14	...	27	15	8	...	23	...	50
Mar.	13	7	...	20	29	7	...	36	...	56
Apr.	17	7	...	24	20	3	...	23	...	47
May.	26	3	2	31	29	3	1	33	...	64
Total	144	72	4	220	162	58	2	222	2	444

STOMACHS EMPTY

(No Fledgings Included)

	Males				Females				Unknown			
Month	Shot	Trapped	Unknown	Total	Shot	Trapped	Unknown	Total	Shot	Trapped	Unknown	Total
Nov.	33	16	...	49	24	10	2	36	4	...	1	90
Dec.	5	13	...	18	7	10	1	18	6	1	...	43
Jan.	4	22	1	27	8	5	..	13	...	...	...	40
Feb.	5	14	...	19	1	4	..	5	...	...	...	24
Mar.	7	6	1	14	9	6	...	15	...	1	...	30
Apr.	5	3	...	8	6	...	4	10	1	...	...	19
May.	11	3	...	14	6	1	1	8	7	...	2	31
Total	70	77	2	149	61	36	8	105	18	2	3	277

TABLE III

	Shot			Trapped		
Month	No.	% by Month	% Total	No.	% by Month	% Total
Nov.	175	38.3	24.9	41	16.9	5.8
Dec.	36	7.9	5.1	55	22.4	7.9
Jan.	26	5.7	3.7	59	24.0	8.4
Feb.	34	7.5	4.8	40	16.3	5.7
Mar.	58	12.7	8.3	27	11.0	3.9
Apr.	49	10.7	7.0	13	5.3	1.9
May	79	17.2	11.2	10	4.1	1.4
	457	100.0	65.0	245	100.0	35.0

AT its July 1937 meeting the Pennsylvania Game Commission declared a bounty on the Great Horned Owl, *Bubo virginianus* in order to control this predator and study its food habits. The writers were assigned the latter task.

Information regarding the date and location of kill, as well as the name of the person presenting the bird, was readily obtained from bounty claims. Field officers also sent in birds for analysis, supplying additional information including the time of kill, and the type of cover and terrain in which the birds were killed. Close examination readily determined whether they had been trapped, shot, or otherwise killed. These notations as well as body, wing, and talon measurements, weights, and other necessary information were recorded.

In all cases of broken wings, missing feet, and other injuries affecting these measurements, the bird was rejected insofar as those measurements were concerned, in order to assure accurate findings.

Stomachs were removed from all birds, the contents alone, as they were upon opening the gastric wall, were weighed and recorded, plainly labeled, and preserved in 70% ethyl alcohol.

Before going into the significant analysis of weights, measurements, and food habits, it will be interesting to note the tables on the Method of Kill. (See Tables I and II). Table I gives the totals by sex as to methods of kill. This table is a compilation of Table II which gives the method of kill by month, with the exception of the fledglings. The fledglings were not included in Table II because they were all killed in March and April and were taken from the nest so that the method of kill is not significant.

The outstanding figure in this table shows that 175 out of 221 birds received, or 79%, of the birds taken in November were shot. This figure in percentage is bettered in May when 79 out of 95, or 83%, of the birds were shot. Both of these figures are readily explained. In the first case the small game season was in full swing *and it is very probable that these owls would have been shot regardless of the bounty.* In the latter case the sportsmen's competitive vermin control programs were at their peak and again it is quite likely these owls would have been killed *regardless of bounty.* This was especially noted in the many requests by the claimants to return the feet as evidence in the vermin control campaigns.

Careful notation of Table II shows a noticeable decrease in the number of birds shot in December and January, and then a gradual increase in the number shot in the latter months until it reaches the peak in percentage in May. This shows up prominently in Table III. Although these percentages are not the same as mentioned above, this is due to the fact that the above figures include the total number of birds received while Table III is based only on birds shot and trapped. Although there are 19 birds in the unknown column, it is not enough to warrant a place in Figure 1.

Habits Study of the Great Horned Owl

Division	A- 22	2.8%
Division	B-104	13.1%
Division	C-122	15.4%
Division	D-100	12.6%
Division	E- 91	11.5%
Division	F-284	35.8%
Division	G- 62	7.9%
Unknown	7	0.9%
	792	100.0%

The above table shows the number of birds killed in each field administrative division and the percentage of total for each division. Division "F" killed more birds than any other two divisions combined. In Division "F" about two-thirds of the birds were killed in the last three months of the bounty period, that is, March, April, and May. Although these figures are interesting, they are not particularly significant because the reason for this is not known.

TABLE IV

WEIGHTS AND MEASUREMENTS

	No.	Females	No.	Males	Difference Females & Males
Maximum Weight	...	5.10 lbs.	...	3.75 lbs.	1.35 lbs.
Minimum Weight	...	2.64 lbs.	...	1.55 lbs.	1.09 lbs.
Difference	...	2.64 lbs.	...	2.20 lbs.	0.26 lbs.
Average Weight Stomach Not Empty	209	3.875 lbs.	206	2.961 lbs.	0.914 lbs.
Average Weight Stomach Empty	94	3.625 lbs.	142	2.784 lbs.	0.841 lbs.
Difference	...	0.250 lbs.	...	0.177 lbs.	0.073 lbs.
Maximum Length	..	25.1 in.	...	23.2 in.	1.9 in.
Minimum Length	...	19.7 in.	...	19.1 in.	0.6 in.
Difference	...	5.4 in.	...	4.1 in.	1.3 in.
Average Length	317	21.912 in.	364	21.217 in.	0.695 in.
Maximum Wingspread	..	60.2 in.	...	56.2 in.	4.0 in.
Minimum Wingspread	...	51.4 in.	...	48.7 in.	4.7 in.
Difference	..	8.8 in.	...	7.5 in.	1.3 in.
Average Wingspread	307	55.841 in.	370	51.360 in.	4.481 in.
Maximum Talon	...	1.102 in.	...	0.984 in.	0.118 in.
Minimum Talon	...	0.748 in.	..	0.748 in.	0.00 in.
Difference	..	0.354 in.	..	0.236 in.	0.118 in.
Average Talon	259	0.918 in.	305	0.828 in.	0.090 in.

TABLE V

G. H. O. FOOD CHART—By MONTH

	Nov. No.	%	Dec. No.	%	Jan. No.	%	Feb. No.	%	Mar. No.	%	Apr. No.	%	May No.	%	Total No.	%
Rabbits	65	44.3	24	44.4	17	32.1	24	40.0	41	49.4	26	37.7	27	31.8	224	40.6
Rats and Mice	18	12.2	6	11.0	15	28.2	13	21.5	13	15.7	14	20.4	21	24.7	100	18.2
Shrew and Mole	2	1.4	1	1.9	2	3.8	..	...	1	1.2	1	1.4	4	4.7	11	2.0
Squirrels	7	4.8	1	1.9	2	3.8	4	6.7	6	7.2	1	1.4	5	5.9	26	4.7
Other Mammals	8	5.4	1	1.9	2	3.8	1	1.7	3	3.6	2	2.8	..	...	17	3.1
Poultry	8	5.4	9	16.7	3	5.7	..	...	3	3.6	3	4.3	6	7.0	32	5.8
Game Birds	4	2.7	..	...	..	...	4	6.7	.	...	1	1.4	2	2.4	11	2.0
Other Birds	23	15.6	8	14.8	7	13.2	10	16.7	13	15.7	7	10.2	4	4.7	72	13.1
Miscellaneous	12	8.2	4	7.4	5	9.4	4	6.7	3	3.6	14	20.4	16	18.8	58	10.5
Total	147	100.0	54	100.0	53	100.0	60	100.0	83	100.0	69	100.0	85	100.0	551	100.0
No. Times App.	147	26.7	54	9.8	53	9.6	60	10.9	83	15.1	69	12.5	85	15.4	551	100.0
No. Stom. Exam.	131	27.7	49	10.3	47	10.0	50	10.6	68	14.4	57	12.1	70	14.9	472	100.0
No. Stom. Empty	90	28.1	41	12.8	41	12.8	25	7.8	44	13.8	46	14.4	33	10.3	320	100.0
Total Received	221	27.9	90	11.4	88	11.1	75	9.5	112	14.1	103	13.0	103	13.0	792	100.0

Rabbits—Cottontail and Snowshoes.
Mice and Rats.
Shrew and Mole.
Squirrels—Red, Grey, and Flying.
Other Mammals—Muskrat, Weasel, Skunk, Bat, Undeterminate Mammal.
Poultry.
Game Birds—Ruffed Grouse, Quail, Ringneck Pheasant.
Other Birds—Large and Small Passerine Birds, Other Birds, Undeterminate Birds.
Miscellaneous—Insect, Snail, Snake, Fish, Crayfish, Amphibian, Vegetation, Unidentifiable.

Analysis of Weights and Measurements

The writers are confident that this is the largest number of Great Horned Owls that was ever examined from one locality in a seven-month period. It will be noted in Table III that only the average weight was calculated for birds with food in the stomach, and secondly, for birds in which the stomach was empty. This can be accounted for by the fact that the bird with the most food in it was not the heaviest bird, and the bird with the least food in it was not the lightest bird.

The outstanding fact in Table III is that the female is definitely larger than the male in every measurement made, with one exception; and that is the minimum length of talon in which case they are both the same. The talon measurements were not taken the first two weeks in November. At that time a method of definitely determining mature and immature birds was sought and there appeared to be a difference. However, as the number of measurements increased it became evident that this was not a distinguishing characteristic. In fact, it was later noted that there would be a difference in length of the corresponding talon on the feet of the same bird. It was further noted that this discrepancy was not constant as to left or right foot. However, not enough figures were taken to be included in this report. Another interesting fact was that the thickness of the talon would vary on different birds as well as the sharpness of the talon. These figures were not recorded, but probably should have been from an interest standpoint. However, micrometers accurate to minute measurements would be necessary for such figures to be of any value.

Although Table III is complete, the significant figures are those which show the average difference between female and male. The Bird that was the heaviest was not the bird that was longest, or had the greatest wingspread or the longest talon. This holds true for the smallest bird as well. The number of birds used to figure the average varies for each measurement because birds with broken wings, legs missing, tail or head missing, etc. could not be used for accurate measurements. Yet in some cases where wingspread could not be taken length could, and various other possibilities in a four-measurement setup.

Determination of Stomach Contents

The analysis of the stomach contents was not made immediately upon receipt of the bird, but the contents were preserved in alcohol for a period of four to six weeks to allow for the cessation of putrefaction.

After the analysis was begun the contents of each stomach were separated according to the various specimens present. If but one specimen was present the procedure was simplified considerably. The specimens were then identified to species wherever possible. This identification was determined by the presence of characteristic bones, skulls, bills, feet, appendages, fur or feathers. If the above mentioned anatomical parts were absent or were present in such a condition so as to defy identification, then the fur or guard hair was placed under the miscroscope and identified by comparison with samples of known fur or guard hair. In no case was an absolute identification based on a surmise. All doubtful specific identifications were put into a more inclusive group. This resulted in the recording of 32 different groups of food in the stomach contents.

Microscopic determination of species was limited to mammals. In some cases it was difficult to determine species from the examination of the fur because the fur varies on any individual mammal depending on the region from which it was procured. However, the guard hair from any particular species, or closely related group of species, is constant and can be identified with a considerable degree of accuracy.

Results of Stomach Analysis

The results of the stomach analysis are shown in Table V. This table is a condensation of the complete report on food habits by county by month for all 32 food classes. This latter report does not show anything significant but is kept in the files in the Harrisburg office.

Table V shows the diet of the owl broken down into nine food classes, from the original 32, as well as the percentage of food. The table is arranged so that the percentage for the food groups total 100% when read vertically, or the percentage is of the total for each month. For example: 44.3% of all food in November was rabbit. The remaining headings are read horizontally to total 100%, or the percentage

REPORT on FOOD HABITS of the GREAT HORNED OWL



The authors, McDowell (left) and Langenbach with part of a November day's mail of owls submitted for bounty.

is of the total by month. For example: 27.9% of all stomachs received were in November. This should explain the setup of this table.

In analyzing this table note that the greatest percent of rabbits was taken in March. This is the period when the young are making their greatest growth in the nest. Also, 112 or 14.1% of all birds received were sent in to the office in March. This is the largest number received in any one month, with the exception of November. To analyze the table briefly the total column, farthest to the right, will be considered. In this column 40.6% of all the food taken by the owls was rabbit. The owl's diet is largely of animals normally considered beneficial to man from one standpoint or another. If the total column is broken from nine food classes to three, namely beneficial, harmful and neutral, the food of the owl shows up as decidedly harmful to man.

In other words, only 18.2% of the owl's diet is normally considered harmful to man. If not directly harmful, the 18.2% is certainly not desirable to man.

This sufficiently describes Table V to establish the reader's interest to ferret out other interesting figures.

Although Table V is a complete report by month for nine food classes, it will be interesting to show the percentage as recorded for each of the 32 good classes. This is shown in Table VI. This table is taken from Food Charts I and II which show the food by county and

Beneficial		*Harmful*		*Neutral*	
Rabbits	40.6%	Rats and Mice	18.2%	Shrew and Mole	2.0%
Squirrels	4.7%			Other Mammals	3.1%
Poultry	5.8%			Miscellaneous	10.5%
Game Birds	2.0%				
Other Birds	13.1%				
Total	66.2%		18.2%		15.6%

are in the files at the Harrisburg office. Although not presented, Food Charts I and II will be described because Table VI is derived from them. Food Chart I indicates the total number of each food class found in each stomach, and Food Chart II indicates the number of each food class as a class in each stomach. For example: If one stomach contained three mice, two shrews and two snakes, in Chart I it was recorded as that, while the same stomach recorded in Chart II would be mice once, shew once and snake once. This explanation should inform the reader as to the difference shown in Table VI between I and II.

At this time it is interesting to point out that in no stomach containing rabbit was there evidence of more than one rabbit. To analyze Table VI it is again evident of the great proportion of rabbits appearing in the owl's diet. The number column in Table VI indicates the number of times each food class appeared in the 492 stomachs containing food. The % of total column indicates the percentage of each food class in relation to the total number of times a food appeared. For example: Chart I shows that rabbit appeared 221 times or 36.6% of all the food classes combined, or 221 times out of 601 possibilities. The % of mammal column indicates the percentage of each food class in relation to the total number of times a food appeared as a mammel. For example: Chart I shows that rabbit appeared 221 times, or 53.2% of all the mammal food classes combined, or 221 times out of 415 possibilities.

Some of the interesting figures to point out in Table VI are the increase in percentage between I and II when the number of times a food appears remains constant, as in the case of rabbit; and the decrease in percentage when the number of times a food appears decreases, as in the case of mice.

The relation between the three main groups of food classes is interesting in that 69% of the owl's diet is mammalian while only 21% is avian, and only 10% is in the miscellaneous group. Of this miscellaneous group approximately 35% is vegetation. This can be explained when it is realized that this vegetation evidently was not taken by the owl for the purpose of feeding on vegetation, but apparently was eaten along with other food, or had been eaten by the animal on which the owl had been preying. This latter was especially true where the owl had been preying on birds.

In analyzing the mammalian food the high percentage of rabbit should again be pointed out. The next significant figure is that when all the mice are included in one group. Although this is the second highest group it really is very low in comparison to rabbit.

In analyzing the avian food the high percentage of poultry must be carried in mind. Of course this is secondary to the class of undeterminate birds. This is readily accounted for by the fact that with only feathers absolute identification was many times impossible, and that in no case was an identification made on a guess. In the poultry group only one turkey was absolutely determined and there was no proof that it was either wild or domestic turkey. The bird was killed in Huntingdon, one of the best turkey counties. Although the Great Horned Owl is reputed as a turkey destroyer, this report should not be taken to show the owl does not kill turkeys, because relatively few birds were received from the "turkey counties".

The food class "other birds" included 7 Screech Owls, 1 Long-eared Owl, 1 Red-shouldered Hawk, 1 Sparrow Hawk, 1 Crow, and 1 Flicker. This alone shows the diversity in the owl's diet.

Table VII, although not particularly useful, is an interesting table in that it shows the maximum and minimum weights of the stomach contents. For instance, the heaviest weight of stomach contents was 5.414 ounces or over 1/3 of a pound. When with a bird that averages 2.961 pounds, from Table IV, it is possible to have 1/3 of a pound, or more than 1/9 of its total weight in stomach contents.

Conclusions and Recommendations

The writers feel confident that these 792 Great Horned Owls represent the largest number of such birds from one specific locality ever presented for diet analysis, within a seven month period. With this large number of specimens available, enough evidence may be obtained to substantiate a positive statement concerning the part that *Bubo virginianus* played as a resident bird of Pennsylvania during this period. After summing up the tables representing the food habits of this avian predator, it is an indisputable fact that the Great Horned Owl cannot be considered one of our beneficial birds of prey. Bearing in mind the fact that only 18.2% of the owl's diet can be considered as consisting of animals injurious to man, whereas 66.2% of the diet represents mammals and birds beneficial to humans, it proves conclusively that the legislature was wise in declaring this an [obnoxious and] unprotected

REPORT on FOOD HABITS of the GREAT HORNED OWL

TABLE VI

Food Class	I No.	I % of Total	I % of Mammal	II No.	II % of Total	II % of Mammal
Rabbits	221	36.6	53.2	221	39.6	57.1
Undeterm. Mice	41	6.8	10.0	40	7.2	10.4
Peromyscus	29	4.8	7.0	19	3.4	4.9
Microtus	26	4.3	6.2	17	3.0	4.4
All Mice	96	15.9	22.2	76	13.6	19.7
Rat	35	5.8	8.5	32	5.7	8.3
Shrew	16	2.7	3.9	10	1.8	2.6
Red Squirrel	13	2.1	3.1	13	2.3	3.4
Gray Squirrel	12	2.0	2.9	12	2.1	3.1
Snowshoe Rabbit	3	.5	.7	3	.5	.8
Muskrat	3	.5	.7	3	.5	.8
Bat	4	.7	1.0	4	.7	1.0
Skunk	2	.3	.5	2	.4	.5
Mole	1	.2	.2	1	.2	.3
Flying Squirrel	1	.2	.2	1	.2	.3
Weasel	1	.2	.2	1	.2	.3
Undeterm. Mammal	7	1.2	1.7	7	1.2	1.8
	415	68.9%	100.0%	386	69.0%	100.0%

Food Class	I No.	I % of Total	I % of Birds	II No.	II % of Total	II % of Birds
Poultry	33	5.5	26.4	32	5.7	27.8
Small Pass. Birds	13	2.1	10.4	13	2.3	11.3
Larger Pass. Birds	6	1.0	4.8	6	1.1	5.2
Other Birds	12*	2.0	9.6	11	2.0	9.6
Grouse	12	2.0	9.6	4	.7	3.5
Quail	4	.7	3.2	4	.7	3.5
Pheasant	3	.5	2.4	3	.5	2.6
Undeterm. Birds	42	7.0	33.6	42	7.5	36.5
	125	20.8	100.0	115	20.5	100.0

19 game birds 15.2% 11 game birds 9.6%

	I No.	I % of Total	I % of Misc.	II No.	II % of Total	II % of Misc.
Insect	19	3.2	31.1	19	3.4	32.7
Snake	10	1.7	16.4	7	1.2	12.1
Fish	3	.5	4.9	3	.6	5.2
Crayfish	4	.7	6.6	4	.7	6.9
Amphibian	2	.3	3.4	2	.4	3.5
Snail	1	.2	1.6	1	.2	1.7
Vegetation	21	3.5	34.4	21	3.8	36.2
Unidentifiable	1	.2	1.6	1	.2	1.7
	61	10.3	100.0	58	10.5	100.0

* Includes:

7 Screech Owl
1 Long-eared Owl
1 Sparrow Hawk
1 Red-shouldered Hawk
1 Crow
1 Flicker

TABLE VII

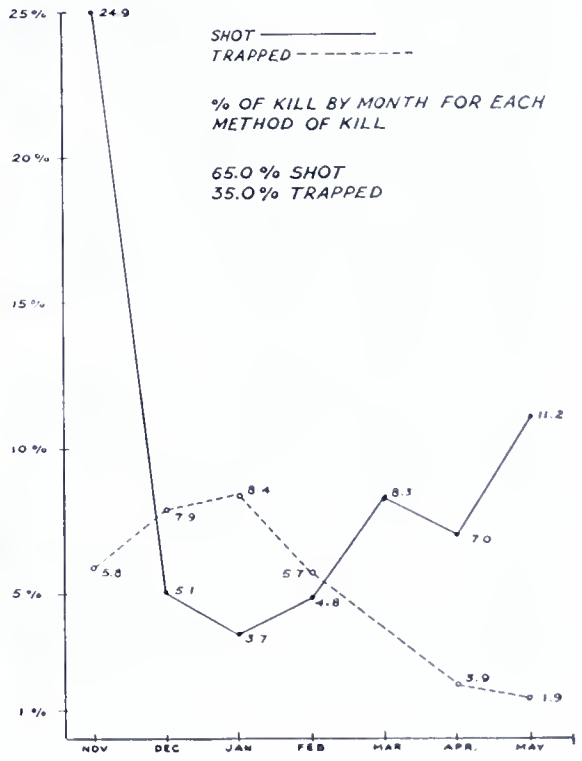
G.H.O. WT. STOMACH CONTENTS

	Female Grains	Female Ounces	Male Grains	Male Ounces
Heaviest	2183.9	4.992	2369.0	5.414
Heaviest 100% Rabbit	2183.9	4.992	2369.0	5.414
Lightest	0.9	0.002	0.2	0.0004
Lightest 100% Rabbit	41.5	0.094	1.3*	0.003

* One other stomach contained three hairs which were identified as rabbit but were not weighed.



Feathers and bones of small game birds and animals taken from the nest of one Great Horned Owl.



bird. The remaining 15.6% of the total diet includes reptiles, amphibians, crustaceans, fish, insects and vegetation. This group, under ordinary circumstances, is neither beneficial nor harmful to man; therefore it may be assigned a neutral classification.

Insofar as the declaration of a future bounty upon the Great Horned Owl is concerned, the writers believe it necessary to do so in order that further stomach analysis may be made. This work should by no means be neglected or considered completed after only one year's study. The past winter was very mild and open, the next one may be severe and of long duration; under these conditions there is a possibility that the present status of the owl may be somewhat altered.

The authors believe that control of this species is not effected by a bounty since the facts reveal that the greatest number of owls were shot during the open hunting season and in the spring of the year when vermin control campaigns were being conducted by the sportsmen. This would indicate that these birds would be killed regardless of the fact that a bounty had been placed upon them. The bounty alone, however, is responsible for the reception of a vast majority of the birds at Harrisburg for stomach analysis.

It should be pointed out that it is desirable to receive birds for study throughout the entire year. Under the present stipulation that birds be presented within 48 hours of killing, putrefaction makes a study almost impossible during the summer months. Perhaps a 24 hour limit would correct this matter, and make it possible for an uninterrupted analysis to be made. Under these conditions a bounty should be paid the entire year.

The writers wish to acknowledge the helpful assistance of the field force and various staff officers of the Pennsylvania Game Commission, and especially that cooperation extended by Harold L. Plasterer, Principal Bounty Claim Clerk. His knowledge of the various birds of prey and general predator conditions within the Commonwealth proved invaluable.

The Farm Fence in Wildlife Management and Erosion Control*

By FRANK C. EDMINSTER



Bare fencerows are not conducive to a good game supply. Where food and cover are scarce wildlife also is scarce.

OPEN land in farm crops or pastures is, in itself, generally inferior habitat for the majority of wildlife species in the Northeast. This is particularly true of sedentary forms, including all farm game birds. While species such as the meadowlark or field sparrow may find all of their requirements within a single field, most birds and the larger mammals need a diversification of cover types in their habitat and a variety of habitat types in their year-round territory. Variety in crops grown on a farm provides valuable changes in habitat, and the margins are "edges" of a sort, especially when fields are strip-cropped. But by and large, farm fields lack year-long shelter and are not secure in the major habitat attributes. Mowing, harvesting, grazing, or plowing will at one time or another remove the source of livelihood of the wildlife inhabitants.

Present Deficiencies in Wildlife Shelter on Farm Lands

Woody vegetation of one type or another and swales and swamps are the major types of permanent shelter found on farms of the Northeast. Properly distributed through the farmed land, they greatly enhance carrying capacity for most forms of farm wildlife. With "clean" farming and the utilization of all possible acres for crops, however, these shelter areas are usually confined to land not farmable because of physiographic conditions and are generally not well distributed. Or, we may say, as croplands are generally in continguous fields, extensive acreages are devoid of adequate protective cover. This condition reaches its highest development on the more fertile and high land-value farms and is progressively less marked on farms that approach the sub-marginal class.

Opportunity for Improvement Lies Mainly with Fence-rows

Considering the possibilities of remedying the deficiency in wildlife shelter, we must accept the basic premise that lands being farmed must continue to be cropped substantially as in the past. Cropping methods may be changed, as from block fields to strip-cropped fields, but the crops must continue to be grown. The one big opportunity for the creation of permanent shelter areas on cropped land lies in the revegetation of permanent field boundaries—the fence-rows.

Fashion as much as anything has led farmers to subscribe to the dictum of "clean-farming"—that is, bare fences and avoidance of weedy and shrubby vegetation. Based on the principle that such growth harbors pests inimical to crops, the practice of clean farming has also become a criterion of neatness. That the practice is detrimental has not lessened its use. It has become "the thing to do"; it is fashionable.

Actually, overgrown fence-rows, except where they contain alternate hosts of crop pests, are of more benefit than detrimental to crops for several reasons. They encourage weed seed and insect eating birds, which assist in pest control; act as a barrier to soil erosion; and form windbreaks for the protection of crops and soil. In many instances, also, they furnish additional farm crops such as berries and fence posts. Bates (1934) has discussed the beneficial effect of between-field cover in checking wind movement, reducing evaporation, altering air temperatures, and in increasing crop yields. He concludes: "With ordinary field crops the farmer may count on a benefit from windbreak protection which will make the loss of the area occupied by the trees negligible".

The problem is largely one of education. When it becomes stylish to have a dogwood hedge instead of a bare wire fence, there will be a dogwood hedge.

When it is considered good farming practice to allow fences to overgrow, man will be judged a good farmer when he does so. When the farmer has been shown the correct economics of brushy fences, it should not be difficult to change his aesthetic viewpoint. A fence row including foliage, flowers, and fruit certainly makes a more pleasing landscape than a stretch of galvanized wire. Other nations have learned the worth of such fences; it is time that Americans awake to an appreciation of a beautiful farm landscape. Grange and McAtee (1934) note that "the famed English countryside owes its beauty and general attractiveness largely to growths of vegetation between fields, so useful in breaking the monotony of crop lands."

I have indicated in a general way that the presence or absence of overgrown fences determines to a considerable extent the wildlife population of the farm. Obviously this is true only in proportion to the extent and distribution of other permanent wildlife shelter habitat. The need for brushy fences, as far as wildlife is concerned, is primarily on farm lands that lack adequate woods, swales and swamplands.

Relation of Farm Wildlife to Overgrown Fence-rows

The relationship of many species of wildlife to shrubby field boundaries may be illustrated by a study of the pheasant population on a

* Paper presented before Third North American Wildlife Conference, Baltimore, Maryland, February 15, 1938.

New York farm area. The writer made a survey of two square miles of farm land in Seneca County, New York, in 1933 and 1934, on which the pheasant was the primary game species. While by no means the best pheasant land in New York, this acreage was considered to be good pheasant range, probably representative of average New York conditions.

These two mile-square tracts were separate, surrounded by essentially similar land and bounded by roads. Vegetative cover in the two areas varied little, there being slightly more hay and pasture on Area No. 1 and a correspondingly larger quantity of woods and swales on Area No. 2. The proportions of the major cover groups are summarized in Table 1.

Table 1. Cover Types on Seneca County (N. Y.) Pheasant Study Areas

Cover Type	Acreage of Cover Types in Area No. 1		Acreage of Cover Types in Area No. 2	
	Acres	*Percent*	*Acres*	*Percent*
Woods and Brush	64	10.0	83	13.6
Swales	20	3.0	31	5.0
Pasture and Hay	316	49.5	273	43.2
Cropland	228	35.5	242	36.5
Misc.	12	2.0	11	1.7
Overgrown Fence Rows (Miles)		5.5 mi.		3.0 mi.

The most significant difference in cover conditions on the two areas was the variation in extent of overgrown fence rows, there being 83 percent more on the first area than on the second. This condition was in some measure offset by the eleven more acres of swale on Area No. 2 than on Area No. 1 but the swales were in relatively large tracts and hence not as well distributed as the fence-row cover. The pheasant-population data indicate clearly that the well scattered fence cover provided a much higher pheasant carrying capacity on Area No. 1. These data are shown in Table No. 2.

Table No. 2 Pheasant Populations on Seneca County (N. Y.) Study Areas

Date	*Pheasant Populations (Per Square Mile)* Area No. 1	Area No. 2	*Ratio*
August 1, 1933	51	20	2.5 to 1
March 1, 1934	21	13	1.6 to 1

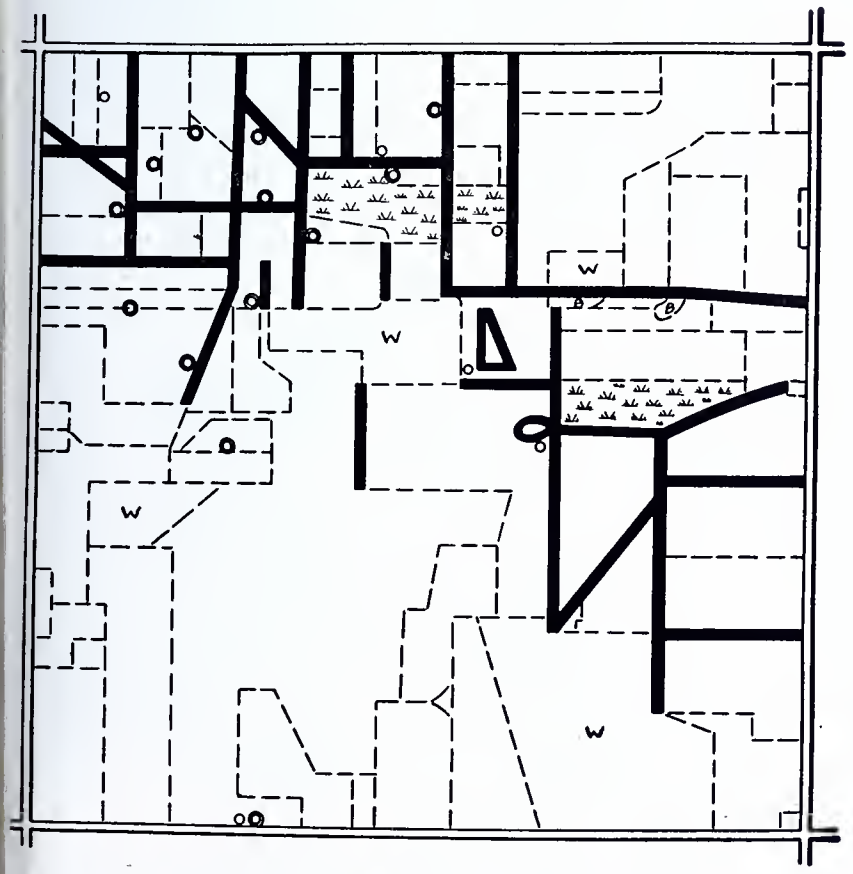
The ratio of the pheasant populations on Area No. 1 to Area No. 2 dropped from 2.5 to 1 in the summer to 1.6 to 1 the following winter, indicating that the carrying capacity ratios of the two areas was about 1.6 to 1. The ratio of shrubby fences was 1.8 to 1 on the corresponding areas. Thus, with other conditions essentially comparable, there was a close relationship between the presence and distribution of overgrown fences and pheasant carrying capacity on this farming land. This relationship is brought out vividly in a graphic representation of pheasant sight record locations plotted on the maps of the areas, on which the positions of cover-forming fences are denoted. During the summer 70 percent of all pheasants seen were in or within 50 feet of such a fence row, the area of which constituted only 8 percent of the total; in winter this proportion dropped to 48 percent. But even more important, the records show that portions of the areas devoid of brushy fences were also practically without pheasants. Whether actually seen within a few feet of such a fence or not, almost all of the pheasants seen and signs observed were in those parts of the areas well serviced with fence-row cover. While winter food is probably the dominant limiting factor of this species in the Northeast, the extent of hedgerows is also of major importance.

Overgrown fences furnish permanent cover lanes to other forms of farm wildlife than the pheasant. Lehmann (1937) says, "Ungrazed strips of native vegetation, 5 to 10 feet wide, ... furnish good lanes of travel for quail. Lanes joining blocks of cover that would otherwise be separated during the winter season increase the acres producing quail and make possible larger and more stable bobwhite populations." Wight (1933) and Grange and McAtee (1934) come to essentially the same conclusion for wildlife in general. Yeatter (1934) particularly emphasizes the importance of shrubby growth in fencerows around hay fields in planning for the encouragement of Hungarian partridges and Summer (1936) gives destruction of fence-row vegetation as "a potent cause of the decrease of (California) quail in modern times." Thus the development of hedges out of inter-field fences, or between unfenced fields, offers the wildlife manager one of the most effective means of increasing the wildlife on farm lands.

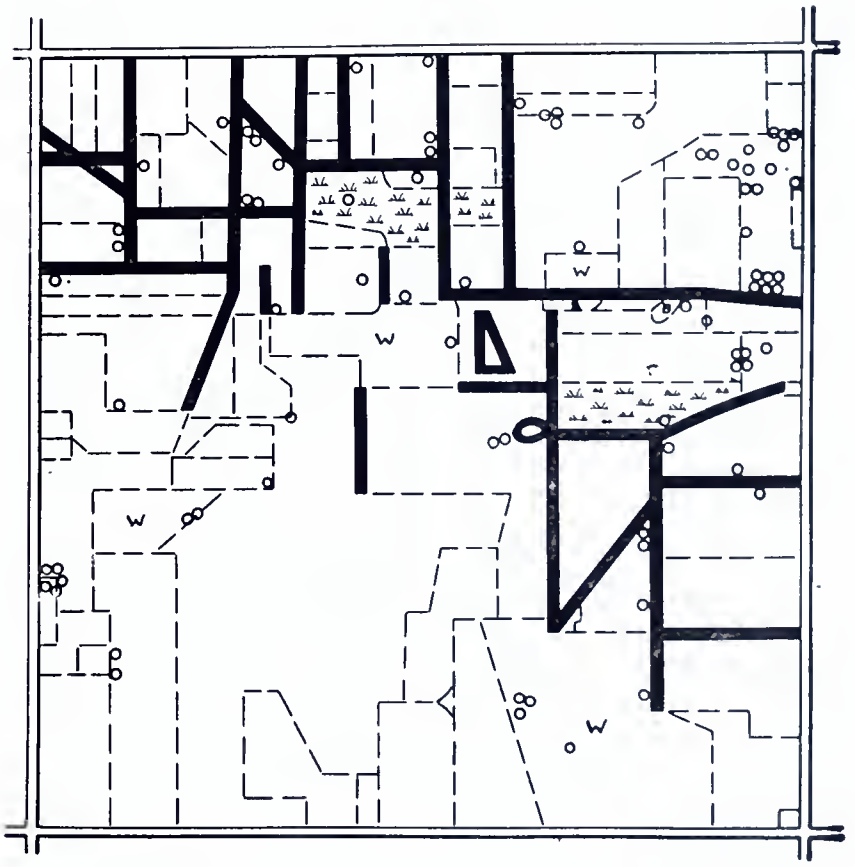
Planting for Between-fields Cover

Generally speaking, fences in the Northeast will acquire a woody vegetation naturally if close cropping and cutting are avoided. However, it is often desirable to plant fences artificially to obtain quicker results and insure the desired species composition. This is particularly true of fences that lie on or approximately on the contour and on land that needs soil-erosion control.

In choosing species of woody vegetation for hedge planting, several factors should be considered. Most important of these are:



No. 1. Summer 1933.



No. 1. Winter 1934.

O ADULT PHEASANT SEEN ● PHEASANT BROOD SEEN ━ OVERGROWN FENCE-ROW --FIELD BOUNDARY "B" BRUSHLAND "W" WOODLAND SWALE =HIGHWAY

(1) Species tolerant of crowding, which form dense thickets and which have soil-holding root systems are desirable. Stoloniferous species are particularly good in this respect.

(2) Species of low height growth, say up to ten feet, are generally preferable to trees. Conifers are an exception.

(3) Species should be included that will furnish wildlife shelter throughout the year.

(4) Species that will assure food for wildlife at all seasons should be given first preference.

(5) Species furnishing fruit and wood products for human use may be included where these are desired.

(6) Species resistant to grazing, but not pasture pests, should be used on fences bordering pastures.

(7) Alternate hosts of crop pests should be avoided. In the northeast these include red cedar, common barberry, gooseberries, currants and buckthorn.

(8) Species poisonous to humans or livestock should be used with caution, or avoided entirely.

(9) Species selected should be adapted to existing conditions of soil and moisture, and should be light-tolerant.

(10) Native species are generally preferable to introductions from other regions, or exotics.

(11) The expense of close planting may be obviated by using species that reproduce quickly.

(12) Ideally, at least three types should be planted in each fence-row: thicket-forming hardwood shrubs, vines, and evergreens.

As an aid to wildlife managers of the Soil Conservation Service in the Northeast, the list of woody plants on page has proved most valuable for fence-row plantings. These are given in the form of a chart that indicates also important characteristics of these plants.

This list is not complete for all localities and conditions but rather represents the species that, from the erosion control *and* wildlife standpoint, have proved of most value from West Virginia to Maine.

Field Hedges as a Means of Erosion Control

I have already mentioned that brushy field fences are a means of conserving soil, especially when they run across the slope. A recent (December 12, 1937) radio broadcast of "Farm Flashes," by the Office of Information of the Department of Agriculture, cited a specific case illustrating this point. Referring to a farm in Kansas, it says, "Like many other fields in the vicinity, (the) land was damaged by wind erosion and the blowing soil piled up in drifts along the fence. Last year (the owner) observed that run-off water from his field backed up behind a large fence-row drift.

"This year his wheat yield ran 10 bushels more per acre on that part of the field where water was held by the drift. The fence-row drift had served as a terrace to hold water on his field where it could seep into the soil for plant growth."

This same principle applies to farms in the East, where water

Table 3. UNITED STATES DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE—REGION 1. SUMMARIZED DATA ON WOODY PLANTS. Preferred for Fencerow Wildlife Plantings

Scientific Name	Common Name	Moisture Tolerance	Height Growth	Soil Tolerances			Species Using **	Months Available (Fruits, Mast)
				Reaction	Fertility	Texture *		

Scientific Name	Common Name	Dry	Fresh	Moist	Wet	Height Growth	pH 4-5	pH 5-6	pH 7	pH 7.5	pH 8	High	Moderate	Low	Sterile	Stony	Gravelly	Sandy	Clay	Loam	Humus	Pheasant	Quail	Grouse	Turkey	Deer	Rabbit	Gray Squirrel	Fur Bearers	Song Birds	January	February	March	April	May	June	July	August	September	October	November	December
Celastrus scandens †	Climbing bittersweet	x	x			vine	x	x	x				x	x	x	x	x		(x	x)		x	x	x					x	x	x	x	x					x	x	x	x
Cornus Amomum	Silky cornel			x	x	x	6'-15'	x	x	x	x	x	x	x				x	x	x	x			x	x					x									x	x	x	x
Cornus paniculata	Gray-stemmed dogwood	x	x	x		3'- 6'	x	x	x					x	x	x	x		(x	x)		x	x	x			x		x	x	x							x	x	x	x
Cornus stolonifera	Red osier dogwood			x	x	x	6'-15'	x	x	x	x	x	x	x					x	x			x	x	x		x	x		x	x	x							x	x	x	x
Corylus americana †	American hazlenut	x	x			3'- 6'	x	x	x					x	x		x	x				x	x	x	x	x		x	x	x							x	x	x	x	x	
Diervilla Lonicera †	Low bush honeysuckle	x	x			1'- 2'	x	x						x	x	x	x					x				x	x		x													
Lonicera japonica halliana	Hall's honeysuckle	x	x	x		vine		x					x	x	x	x	x	x	x	x	x	x	x						x	x	x								x	x	x	x
Myrica carolinensis †	Bayberry	x	x	x		3'- 6'	x	x					x	x	x		x	x	x	x		x	x	x	x				x	x	x	x							x	x	x	x
Parthenocissus quinquefolia †	Virginia creeper		x	x		vine		x	x	x		x	x			x	x	x	x			x	x	x	x	x			x	x	x	x							x	x	x	x
Picea excelsa	Norway spruce		x	x		100'			x	x			x	x			x		(x	x)	x			x		x	x		x											x	x		
Pinus resinosa	Red pine	x	x			70'-80'	x	x	x				x	x			x	x	(x	x)						x	x		x											x	x		
Pinus rigida	Pitch pine	x				50'-60'	x	x						x	x	x		x						x		x			x												x	x	x	
Pinus Strobus	White pine	x	x	x	x	60'-80'	x	x	x				x	x	x			x	x		x			x	x		x	x	x	x										x	x		
Pinus virginiana †	Virginia pine	x	x			30'-40'	x	x					x	x	x			x	x					x		x			x												x	x		
Prunus americana	Wild plum	x	x	x		10'-15'		x	x				x	x			x	x		x	x		x	x					x										x	x	x		
Prunus virginiana	Chokecherry	x	x	x		6'-20'	x	x	x	x	x			x	x	x		x	(x	x)			x	x	x		x	x	x	x									x	x	x	x	x
Rosa spp. †	Wild rose	x	x			1'- 3'	x	x	x	x			x	x	x		x		(x	x)	x		x	x	x	x	x	x	x		x								x	x	x	x	x
Sambucus canadensis	American elder	x	x	x		6'-15'		x	x	x			x	x	x		x		(x	x)	x		x	x	x	x	x			x	x									x	x	x	x	x
Solanum Dulcamara	Bitter nightshade	x	x	x		vine	x	x	x	x	x		x	x				x	x	x	x		x	x	x						x	x	x	x	x				x	x	x	x
Symphoricarpos albus	Snowberry	x	x			3'- 4'		x	x	x			x	x			x	x		x	x		x	x	x		x				x	x	x	x	x				x	x	x	x
Symphoricarpos orbiculatus †	Coralberry	x	x	x		2'- 5'		x	x	x				x	x	x	x	x		x	x		x	x	x	x	x				x	x	x						x	x	x	x
Viburnum trilobum	Highbush cranberry		x	x	x	6'-15'		x	x	x	x			x	x				(x | x)	x	x		x							x	x	x	x					x	x	x	x
Vitis spp.	Wild grape	x	x			vine			x	x	x		x	x			x	x	(x	x)	x		x	x	x	x	x	x		x	x	x	x						x	x	x	x	x

* (xx) Combined Soil Texture Type.
** x Indicates Species Furnishes Staple Food for Species Using.

(N. b. Region I. includes all states from Me. to W. Va.)
† Indicates Resistance to Grazing.

erosion is the main cause of soil losses. Cross-slope fences that are overgrown serve as barriers to both sheet and gully erosion and tend to form a terrace, which improves soil moisture conditions. In numerous cases there has been observed a three to eight foot difference in ground level above and below the fence, largely owing to the building up of washed soil on the upper side of the fence.

The soil-conserving values of hedge fences have a direct bearing on wildlife since, like any other crop, it is basically dependent upon the soil. But the important aspect of the fence-row soil relationship to the wildlife manager is that a sound program of farm wildlife management can be sold on a multiple-purpose basis. The direct agricultural benefits accruing from overgrown fences are more readily appreciated by the farmer than is the wildlife value alone. The encouragement of between-field permanent cover should be sold on its complete multiple-value basis.

The Farm Fence as a Means of Protecting Existing Habitat

We have so far considered the farm fence as a means of obtaining permanent cover for wildlife on open lands and of improving soil conditions for farm crops. We may add that it also protects woodlands, swales, swamps and water areas from livestock grazing. The effect of grazing on these types of wildlife habitat is too well known to need elaboration here. Too often, grazing renders uninhabitable to many species an area with great wildlife potentialities.

It should be noted that, contrary to the relation of open-land fences to wildlife, the value of the fence in protecting woodland coverts tends to increase with the less fertile and poorer farm lands. Here again, the arguments against the practice of grazing there inferior pastures are not confined to the advantages of encouraging farm wildlife. A sustained yield of woods products demands that woodland reproduction be protected. Proper conservation of farm soils and water is impossible without protected permanent vegetation in all woodlands, gullies, swamp and marsh areas. The wildlife program must be constructed on this multiple-purpose foundation if it is to be practical and successful, and the use of the fence as a tool of the conservationist should be given greater attention than ever before.

Summary

1. Farm lands generally lack adequate permanent wildlife shelter.
2. Fence-row vegetation offers one very good opportunity for improvement.
3. Systems of overgrown fence-rows will raise the wildlife carrying capacity of the farm markedly.
4. Artificial planting of fence-rows insure good species composition and provides quicker results.
5. Overgrown fences benefit crops, aid in soil and water conservation and improve landscape values.
6. Fencing is valuable in protecting grazed woodlands, brushlands and swamps from erosion and water losses and in providing wildlife habitat and a sustained yield of wood products.

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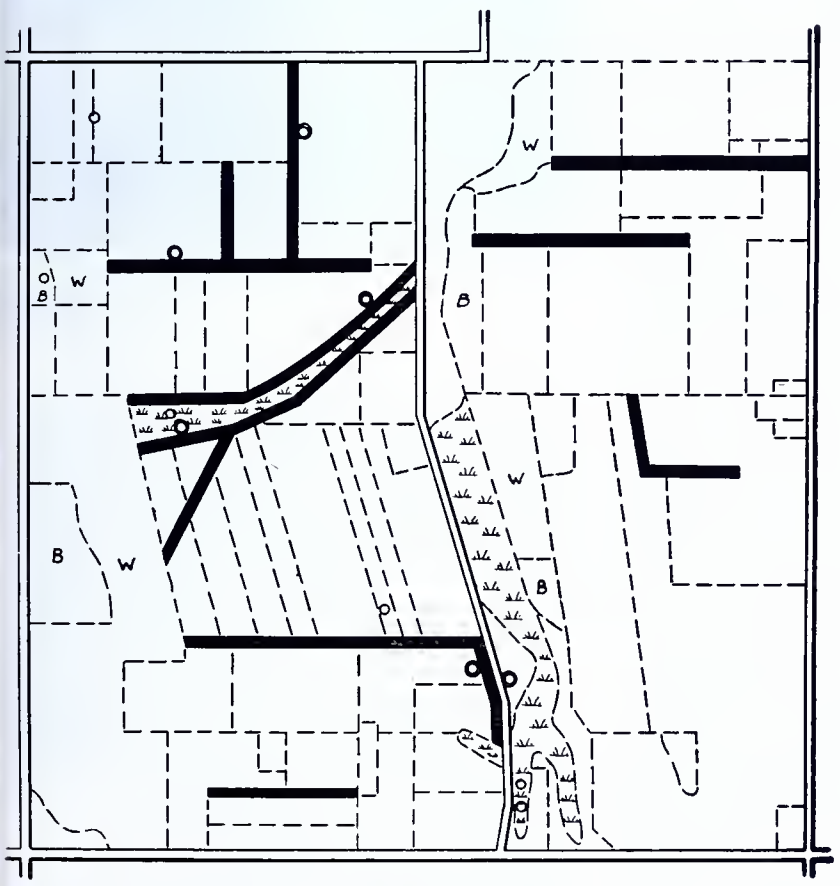
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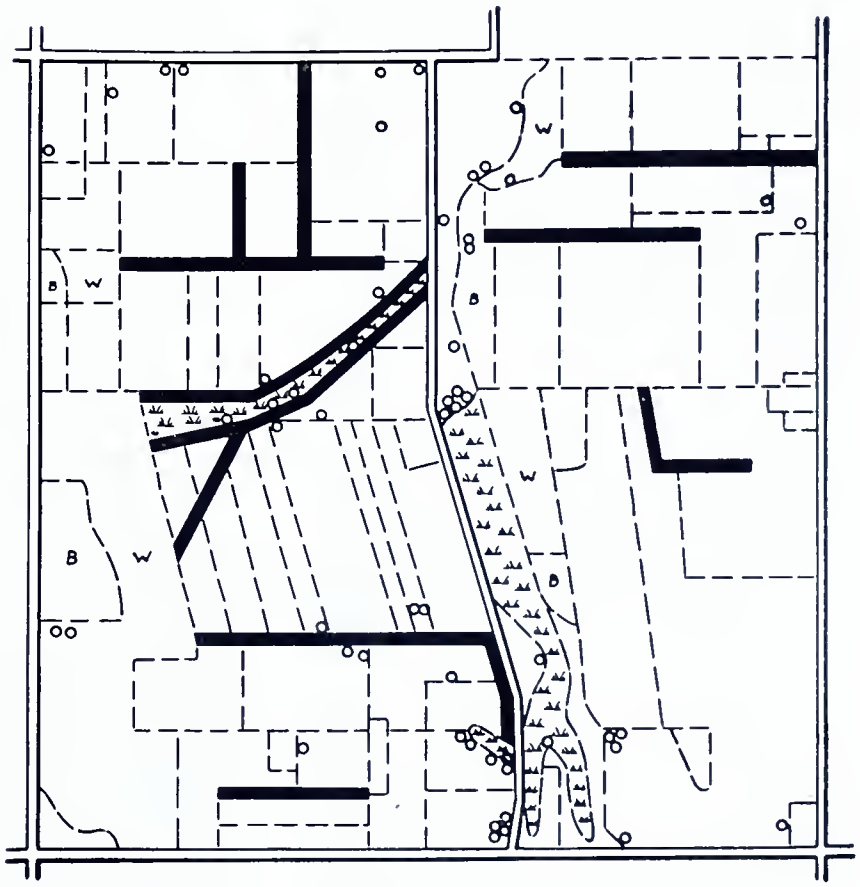
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O ADULT PHEASANT SEEN ● PHEASANT BROOD SEEN ▬ OVERGROWN FENCE-ROW -- FIELD BOUNDARY "B" BRUSHLAND "W" WOODLAND SWALE =HIGHWAY

No. 2. Summer 1933.

No. 2. Winter 1934.

TAKING CONSERVATION

By John C.

Address—International Conference of Game, Fish and Conservation Commissioners Asheville, N. C., June 21st, 1938



Tennessee School Exhibit.



Students stud in their own

EDITOR'S NOTE: *Tennessee has formulated a model program of conservation education, particularly in the schools. Pennsylvania tried a similar plan several years ago but obvious lack of interest on the part of various agencies combined to defeat it. Now we are happy to announce that an educational committee appointed by the Federation of Sportsmen's Clubs is working out a program similar to Tennessee's, which if approved will institute a course in conservation in the public schools; second, in all teacher's colleges, and at the same time make available for present teachers material which can be applied both theoretically and practically in the school room. Many organizations, including patriotic, civic and service groups are behind the movement one hundred per cent.*

WE in Tennessee believe that education of the public, and particularly of the coming generation, is the most important single phase of our entire conservation program. It is possible, that learning from our mistakes, we have developed methods that may be of use to others in the same work and I am certain that many of you in your work have developed programs from which we may get some valuable ideas.

About fifteen years ago various conservation agencies in Tennessee began to realize the importance of education as a means of developing conservation attitudes. The forestry division of our state instructed its men many years ago to visit schools whenever possible and to interest teachers and students alike in the forestry program. This early work developed and bore fruit so that in 1926 pressure was brought to bear on the legislature and a course in forestry and conservation was set up by law with a legally adopted textbook. Still later the educational trend had its effects in game and fish work and in 1935 the State Game and Fish Commission inaugurated a Division of Education to start work throughout the state among the schools.

Less than a year and half ago all existing agencies in conservation in Tennessee were coordinated and a Department of Conservation was formed. One of the important administrative units of this new Department was an educational section. It became immediately the duty of this section of the Department to try to coordinate all the educational activities carried on heretofore and mould them into a new program of conservation education. One of the first things that was attempted was a careful study of all the prior conservation education work in Tennessee and a study of similar programs of all the other states.

Immediately some very interesting facts became apparent. We soon saw that relatively little true educational work had been done either in our state or any other state. Instead of conservation *education*, the work that has been done to date might better be called publicity. We found, too, that in our state the teachers were not trained in any way to teach conservation. With few exceptions, they knew nothing of the importance of conservation and had no idea of the possibilities of teaching it. We found that most of the school work which had been done had been done independently of regularly constituted school authorities by individuals who happened to be interested and was generally more nature study than conservation.

Conservation had been taught, it is true, in compliance with Tennessee law with an adopted textbook for ten years but we found that this forced teaching had had but little beneficial results. A study of conservation education carried on by the other states showed these same failings. Some very few states have adopted conservation courses but they have made no provisions for adequate teacher training. It is worse than useless to expect a teacher, who knows nothing about conservation and whose interest in the subject has not been aroused, to successfully teach the subject. Obviously, it would be a waste of teachers' and pupils' time to require a teacher, who couldn't add or subtract and saw no importance in it, to teach arithmetic.

We feel that nearly all the educational work that has been done to date is nothing more than publicity and propaganda, or feeble nature study programs of the "see-the-pretty-birdy-type". It is our sincere opinion that conservation education is a term that takes

INTO THE SCHOOLS

Caldwell

Educational Assistant
Tennessee Department
of Conservation



estry and wildlife
re forest.



Forestry and Land use Exhibits used by the Tennessee Conservation Education Service.

in a lot more than the making of many speeches and the sending out of many news reports. It is a lot more than telling people about the fish hatcheries and the game farms —about the importance of buying one's license. Conservation is the proper use of our environment and thus conservation education must teach this proper use and show the results of misuse.

With these facts in mind, some 15 months ago we started what we feel is a program of real conservation education. The first and most important project we have undertaken is to see that conservation is properly taught in the schools of Tennessee under the supervision of proper teaching authorities. We realized at once that teachers themselves must be trained and awakened before they can themselves teach conservation. In Tennessee, county teachers' associations meet once a month during the school year, generally on Saturday, for educational programs. We first contacted the county superintendents of education in the 95 counties of the state, asking them to allow a department representative to meet at one or more of their institutes during the year and explain our conservation program and discuss with the teachers, ideas relative to teaching conservation.

During the last year we met with 37 such groups, contacting some 6,000 teachers telling them about the conservation program of Tennessee and our desire to get proper conservation teaching in the schools. Immediately following each teacher's meeting, conservation department representatives visited in that same county, putting on programs at some five or ten schools in the county. In this way teachers obtain some little mass training but quite naturally we cannot expect to do much in one or two hours during the year. However, we consider this early contact of the greatest value in making our subsequent reception a favorable one.

Our second method of training teachers in the teaching of conservation is to obtain the introduction of such courses in seven of the leading colleges and universities of the state. Teachers must study conservation if they are to teach it. Certainly an English teacher is not put into a school unless she has studied English. We have met with the professors selected to teach the courses and have helped them plan their work and have had department personnel meet with each class several times during the course and we attempt to supply them with factual material. We have a surprisingly heavy enrollment in these courses during this first year and the professors report widespread interest in conservation.

Next after training the teachers of the state, we realize that the general public—father, mother, members of the school board, etc.—must be sold on our conservation program if we are going to get successful teaching of conservation. With this in mind, we have traveled the state systematically from county to county, visiting schools, colleges, school board meetings, meetings of every variety—teaching the people the importance of conservation and telling of our efforts to obtain its teaching. After all, it is the "patrons"—the people that send their children to school—who really run the school. In many cases curriculum content is investigated by these patrons. If conservation is to be taught, these people must be behind it and pushing it.

Some months ago a twenty-foot trailer was bought and outfitted as a traveling conservation exhibit. The trailer is equipped with exhibits covering all phases of conservation—forestry products, minerals, stuffed birds, and animal skins, charts, maps, graphs; it also contains excellent motion picture equipment and a powerful generator so that we can show motion pictures in any school no matter how far from electricity it may be situated. Since October, when this program started, we have scheduled some 340 meetings in nearly every county of the state. This figure may sound big but much more impressive is the fact that during the same period it was necessary to turn down 1200 invitations for conservation speakers. That would certainly indicate the interest in this important subject.

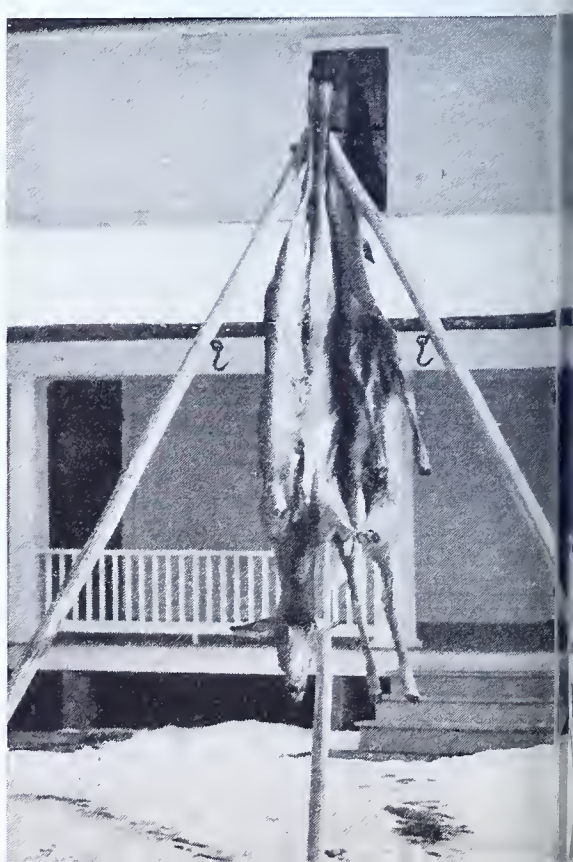
(Continued on Page 28)











Top: A 298 pounder shot
Pennsburg. Left to right—Her
Coopersburg; Maurice May, M
Haring and Hiram Wisner, all o

The other photos depict w
his way here and there through
viewed many farmers all of who
less deer season. He was told
—that the animals had bec
serious and frequent that the
farms. Some had killed as mar
and early fall to try to stem th
us hope the season will have a







e county by Foster C. Hillegas, of Genszler, Red Hill; Edgar Knerr, n; Hillegas; and Henry Kurz, H. H. nsburg.

he cameraman saw as he wended ne State. In his travels he inter- re loud in their praise of the antler- nany that it was their only salvation so numerous and depredations so re thinking of abandoning their fifty deer during the late summer e of invasion but to no avail. Let ed them some relief.







Photo Academy of Scienc

total of 26,000 pupils from the Philadelphia public schools visited the Museum and received instruction from the Department of Education during 1937-38.

How A Museum Serves Conservation

By W. STEPHEN THOMAS
Director of Education
Philadelphia Academy of Sciences

The Value of any Museum can be increased by the establishment of an Educational Service.

A GROUP of eager boys and girls crowded around a table in the Museum of Philadelphia's Academy of Natural Sciences. Spread out before them was a varied assortment of the fur-bearing animals of Pennsylvania. Here was the tiny mole, the paddle-tailed beaver, the fox with his sly expression and a number of others. Each, attractively mounted in the most life-like of postures, scarcely gave the impression of being dead creatures.

"Can I touch the squirrel?" a ten-year old boy asked timidly as he put his hand near the bushy tailed animal. He has seen pictures of them many times before but only had he glimpsed a live squirrel scampering along the lawn of a city park. He had long wanted to hold one in his hands.

"Certainly you may touch him. That's why we have him here," replied the young lady museum teacher. "And now see whether you can make a discovery. How does he open that beech-nut he is holding?"

"Oh, I know. He cracks it!" triumphantly shouted a small chap with glasses who appeared to be sure of his information. Quickly, a blonde-haired girl, who had been quietly watching up to this point, broke into the conversation.

"No, he doesn't. Can't you see the marks of his teeth on the shell? He nibbles the nut."

"Yes, you are practically right. He gnaws or nibbles the shell. Squirrels would have a hard time cracking such a tough object. But not many people would realize that. And now that we are talking about squirrels, do you know that there are other kinds besides the gray?"

"Oh, yes, the red," was a little girl's retort.

"Well, there are others, too. We can see them at the Game Exhibit.

"What's that?" said a boy.

"Let's go and see," replied the teacher. A few minutes later the visitors to the museum trooped down a corridor and assembled before a row of glass-fronted cases. Within these cases the class observed groups of birds and animals mounted in natural settings of forest, upland and marsh. Here they recognized the trim black and gray of the Canadian geese, the strutting wild turkey gobbler, his fan-like tail spread widely, the bright-coated fox and the diminutive cotton-tail rabbit, who blended so perfectly with the dry leaves on which he crouched that he could scarcely be seen. The boys and girls peered with excitement at the longtoed rails, seeking their food among the protecting cat-tails and the tiny sandpipers, stopping in their run along the water's edge. These were less familiar and even unknown to most of the class.

From a label, prominently displayed, the youngsters learned that this was an exhibit of Pennsylvania's wild game. Here, also, were printed explanations of the game laws of the State. It surprised them that there were so many different kinds of creatures. The teacher told them that conservation meant the wise use and management of our wildlife, as well as of forests, soil and waters. They found a collection of birds that it was prohibited to hunt. These included the dainty little sandpipers, the brightly plumaged wood ducks and others. Some are so rare they might be exterminated if they were hunted. But they learned, also, that a certain amount of hunting was beneficial to prevent certain kinds of animals and birds from overcrowding others. Among the group of game animals they found their friend, the gray squirrel, realistically clinging head downwards on a tree trunk as if he were about to scurry away at their approach. Near him were the other squirrels, the red, fox and black, which were new to them. The teacher pointed out that this exhibit they were admiring had been built by the Academy of Natural Sciences with the help of the Game Commission and that their class was among the 70,000 school children and 280,000 grown-ups who had seen these animals since the exhibit had been opened in 1936.

The School delegation whose course we have followed is representative of the hundreds that visit the Academy in Philadelphia each year and take advantage of its free educational service. And these classes from schools, both public and private, come not only from Philadelphia and its suburbs but from towns and cities scattered all over Pennsylvania. Many of these even journey from the neighboring states of New Jersey, Delaware and Maryland, often travelling long distances by bus. During the past year, alone, some 38,000 young people from kindergarten to college age were members of the groups which studied natural history in the museum. These lessons in which they joined covered many different nature topics. The subjects ranged from the story of "How Life Began", millions of years ago to an intensive study of the plants, birds, animals, and even the rock formations in the talk, "Our Changing Earth." Then, also, there were

lectures on the adaptations and relationships of living things, the change of the seasons and the habits of animals.

A lesson which reveals the trend of interest in the preservation of our natural resources and of our wildlife is the Museum Talk, "Our Rich Land", offered by the Academy for the first time this fall. The story interprets to children the fascinating story of conservation. It traces the ways in which the country's wildlife has been menaced, its forests cut down, its top-soil washed away, its streams and rivers polluted and its mineral resources wasted. But it shows as well the many hopeful ways in which the natural wealth of the United States may be conserved by pointing out the advantages of the game laws, game refuges, re-stocking of animals and the winter feeding of game. It stresses the benefits of forest fire prevention, the fighting of soil erosion, the use of dams and the wise drainage of swamps. Boys and girls learn the possibilities of helping in these beneficial services. Through interesting photographs and a series of colored motion pictures, provided by the Pennsylvania Game Commission, the conservation movement becomes dramatic and alive. At the close of the lesson, teachers receive literature and posters describing winter feeding of birds and animals and other ways in which her pupils may help in maintaining the balance of wildlife.

In short, such Museum Talks or lessons are combinations of lecture and demonstration which makes very real the study of books. Before the teacher brings her class for the visit she receives an outline of the subject, which helps her to prepare her group for the lessons they will experience. At the museum, the meeting is conducted informally with thought for the age and interests of the children. There is plenty of chance for discussion, for every child is invited to ask questions and to draw others from his class-mates. Following the lecture, the class proceeds to the museum galleries where the young people observe an extensive series of models, mounted specimens, and those fascinating arrangements of animals and plants, called "habitat" groups, in which the objects are set up realistically in their natural surroundings with beautifully painted backgrounds.

By means of intimate experiences such as these, thousands of boys and girls, for the first time in their lives, have close contact with birds, animals and plants and the whole array of nature. They learn what can be found at their own back-doors, as well as in foreign lands, reached by the far-flung expeditions which the Academy has sent to distant corners of the earth. And to all parents and to sportsmen who realize the importance of a knowledge of nature and a nature awareness, this movement of children toward the museum is significant.

For the museum pilgrimage is now an established part of the work of the schools which today recognize two broad objectives. First, they see that learning from books alone is by no means sufficient. No spoken explanation or written description can equal a view of an

(Continued on Page 28)



Photo by Spencer B. Fulweiler.



Photo by Spencer B. Fulweiler.

Top: Thousands of school children use the Conservation Exhibit.

Center: Work on a group project illustrating the principles of Conservation.

Bottom: A class of crippled children in the museum enjoy studying one of Pennsylvania's fur-bearers.



Photo courtesy Philadelphia Enquire.

RINGNECK

By ROBERT OSBORNE STEELE

RINGNECK strutted across the road and swiftly and silently lost himself in the field of timothy. He cocked his head to one side and gurgled softly to himself. It was September and the blood rushing through his veins was quickly imparting a multi-colored hue to his present muddy colored feathers. He frequently cackled aloud just to see how it sounded and then listened expectantly for some answering call. At times Ringneck came upon others of his brood. They had been born and raised in that patch of farmland and until a month ago had chased grasshoppers together. Maturity had gradually separated them until now Ringneck ran and nested alone.

As he proceeded through the field he paused now and then to scratch for a bit of roughage or scrutinize a clump of weeds for particular kind of seed. Life was bountiful and pleasant, for Ringneck had not experienced a hard winter nor the terrors of a hounding gunning season.

Even at the age of puberty his inherited knack of self-preservation was fast becoming apparent. A shadow moving across the field frightened him into an indiscernible statue or caused him to run swiftly for the protection of a fallen tree. He quickly learned to differentiate between natural and artificial sounds. The usual sounds he ignored but the unusual was a signal to crouch or quickly circle so that the sound was moving away rather than toward him. He often met Jim who farmed that land and in youthful exuberance he would run around and settle quietly behind him. He supposed that Jim never saw him but in that he was mistaken for Jim marked the spot and purposely crossed the field at that point to watch his maneuvers.

Ringneck seldom flew unless he wanted to return to his family which bedded down near the corn field. When de did he cackled loudly and then enjoyed the surprise and consternation his approach created. He joined his family less frequently since the time the dogs had stumbled on them and successfully scattered the whole flock. It was an experience, but after it was over he knew that he could easily evade a dog by flying.

He preferred a solitary existence, however, and soon got in the habit of nesting down near the corner of the field which joined the woods. It was convenient and quiet. Quiet with one exception. Every night when Jim came home from the fields he passed that way and every time he did so Ringneck had to move. Sometimes he flew, particularly if that batty lemon and white setter was along and started to nose about. If Jim was alone he simply moved to one side and waited. After Jim passed he returned to his favorite spot. They got to know each other.

When Jim first drew near Ringneck could feel his tread on the ground. He listened carefully. If there was no dog he waited for Jim's cackle. It was absurd for Jim to try to imitate a bird but Ringneck always helped the game along by cackling in return. Often they cackled to each other twice just for the fun of it.

"You still live there do you?" Jim would ask softly.

But Ringneck only would look wise, cock his head to one side and never answer.

If the setter was along it was more exciting. Both Jim and the dog approached cautiously and Ringneck would hear Jim talking quietly as if he was trying to teach that dog some bird sense. Ringneck would crouch low and wait. First, of course, he looked around for the clear spot to get up. He had to avoid heavy brush or briars. A few seconds delay might be fatal.

"Easy, boy, easy," Jim would whisper and Ringneck knew the dog was near.

"Steady, old fellow," and peering through the grass Ringneck would see the dog watching with steady eyes, his head thrust forward, his front foot raised. He often wondered why the dog didn't come closer, he could give him another three feet and beat him to the jump. Just about that time Jim came ploughing through and it was time to go and go high. Jim always cackled at that movement and Ringneck answered as he rose.

Often Ringneck looked down as he flushed and when he did he would see Jim raise his arms and squint along his fingers. Funny business, he thought, but since nothing ever came of it he quickly forgot. The hunting and flushing soon became a daily routine procedure. It went on for sometime and the morning air grew crisp and at night a slight frost painted the grass white. Ringneck grew heavy and strong and his feathers gradually took on the colors of the rainbow.

One morning he awoke with strange forebodings. The world was very quiet but there was a tenseness in the air which he could not comprehend nor understand and it worried him. As was his usual custom he wandered from his nesting place over to the adjoining farm. Through the corn field to a fence line. Here was food, succulent and in plenty. The sun came up in a blaze of fire and Ringneck shook himself as the warm rays penetrated his feathered coat. He became aware of strange moving figures in the distance but quickly dismissed them as being things apart from his own personal world. He scratched and hunted and otherwise enjoyed himself.

Suddenly, however, he brought up sharply and crouched warily as he heard a man call far down the field.

"Too bad, old boy. Better luck next time," he heard, and he watched carefully as a female relative flew high overhead and coasted out of vision.

It was the same kind of voice but it was not Jim's. These were strangers in his land. It would be well to be careful.

While Ringneck meditated flight he was conscious of a running dog in the vicinity. It apparently was running across the field, back and forth, for at times he could hear it distinctly and then the sound would fade away. Here it was coming again but this time it was different. The dog had stopped. It was approaching him and Ringneck crouched. The same game he and Jim played, he thought, and he looked around for the clear spot to fly.

"He's on point," he heard in the distance and looking through the grass Ringneck could see a big, bony, liver and white animal with floppy ears and a set square jaw. Its sensitive nose quivered as Ringneck returned the stare.

The dog was a stranger and Ringneck decided to leave while there was yet time. Maybe the dog wouldn't understand. It might jump and try to grab him. He rose in one royal swoop, beating his wings frantically to get altitude and swerved to the left for that long glide down the valley. As he turned he look down at the men. There were two of them and they were both going through the motions Jim had used. Their arms were out and their heads down as they squinted along their fingers only this time he noticed a long black stick in each man's hand. He cackled a greeting but even as he spoke the black things answered. First one and then the other.

Ringneck felt the air churn around him at the first shot, on the second he felt a biting sting in his left side. He dipped slightly but having gained sufficient height he now merely set his wings and soared. Fear and the burn in his side made him determined to place as much distance as possible between himself and the men. He glided over the tree tops of the valley and over the next rounded knoll. Finally he settled down in a little used corner of a field where the grass was uncut. He found a small open spot where he could press his sore side against the cool earth and there he remained.

It was days before Ringneck was himself again. The wound had burned and blistered but by stretching his neck he had been able to extract the pellet and soon the stiffness in his side left him. The experience of being shot at, however, was something he never forgot.

During the time that Ringneck nursed his punctured side he heard much foreign activity. Guns were booming and the barking of dogs was heard frequently. As the days wore on this tumult subsided somewhat but the occasional shot or bark always found him alert and prepared to move instantly.

The little corner of the field that Ringneck used was not invaded by gunners and from that angle was ideal but Ringneck yearned for his old nesting place. It was just back over the knoll and on the other side of the valley. Gradually he retraced his flight until two weeks later he finally arrived in familiar surroundings. He cackled softly to himself as he tried out one nesting place after another. He noticed at once that shots were less frequent here than in the cover he had used for the past two weeks. In fact he heard only a few shots a day and they were so far away he gradually lost interest in them.

It was about a week later that Ringneck suddenly sat bolt upright and sharply cocked

RINGNECK

his head to one side. He heard a soft whistle in the distance and the dull thud of charging feet. He recalled vividly his past experience and took immediate steps to protect himself. He would trust no man, not even Jim with his playful cackle which was supposed to sound so real and pheasant-like.

"Funny where that bird got to," he heard in the distance. The panting of the dog came to him now and was the signal to move and move fast. He parted the high grass silently and slipped off toward the woods propelled by fear and consternation. By the time he got to the underbrush which fringed the field he could hear the dog slow up.

"Hold it, old boy," Jim whispered softly to the dog. "That's a wise bird you're playing with. Careful."

Ringneck didn't want to hear the finish of the monologue. He moved noiselessly over the carpet of dried leaves, crossed a small open patch and dipped down into the bed of a small stream. Up this he ran as far as possible. He turned off sharply to the right through the woods and out in the clear. As he took off he cackled loudly as a matter of habit and in the distance he heard Jim laugh and cackle in return.

It was several days before Ringneck returned. He didn't know it, of course, but it was the last day of the season. The hills and fields were silent except for an occasional shot. The day passed slowly and finally the sun began to settle in the West and the tree and grass and even the bare ground was colored with a golden reflection.

Ringneck sat dozing in his accustomed spot. It was warm, even sultry. Occasionally he preened a feather or searched for a minute marauder in his brilliant plumage.

Subconsciously he heard walking in the distance but it was the casual step of some one strolling and not the fareful tread of a person hunting. He closed his eyes again and dreamed on. Soon the steps grew louder.

"To think that cock bird out-smarted us," Ringneck heard Jim remark to his dog.

Jim's gun was slung loosely under his arm. His hat was pushed back on his head and he had the contented feeling of one who had finished a successful season. Of course, he would like to have added Ringneck to his bag but he was one who enjoyed the competition in gunning. If a bird was clever enough to make a getaway, God bless him and save him for another season. If Jim missed a shot he swore to himself and gave credit to the bird for ducking out of range. He blamed his own inaccuracy if he missed. In that spirit Jim approached the corner of the field at the end of the day.

The setter strolled contentedly at his side. Occasionally he sniffed the air lazily but it was a half-hearted gesture given at the end of the day through habit rather than with expectancy.

"And to think he out-smarted you, Cap. That's the sad, sad part of the story," Jim mumbled on and Cap turned his head and drooped his ears in shame.

Suddenly the dog stopped, raised his head sharply and stiffened his tail.

"Don't tell me the old rascal is bedded down in his old place?" Jim exclaimed. "Take it easy, old fellow. Slow and easy."

Cap moved ahead cautiously and Jim moved his gun into position. If Ringneck rose he would undoubtedly head for the woods. It was close and sure cover. The best possible position was between the dog and the cover. If he missed the shot coming up he could take another as he flew over. Jim thought this all out carefully as he slipped his safety. The last shot of the year. The last contest of the season. Let the better man win.

Ringneck watched through the grass cautiously. He decided not to run, perhaps Jim and his dog might pass him by. He heard the dog draw closer, the dog stepping high and carefully hardly moved a blade of grass until his keen eyes peered back at Ringneck. He heard Jim move to one side.

All nature held its breath. The dog moved slightly nearer and quivered in anticipation. Ringneck crouched lower for the spring and then it came. Up he soared and straight toward Jim. As he rose he looked down at Jim standing waist high in the grass. He saw Jim level off with his arms, but to his consternation he saw grasped in Jim's hand one of those long black sticks.

Ringneck cackled a protest. This wasn't part of their game. He crackled again.

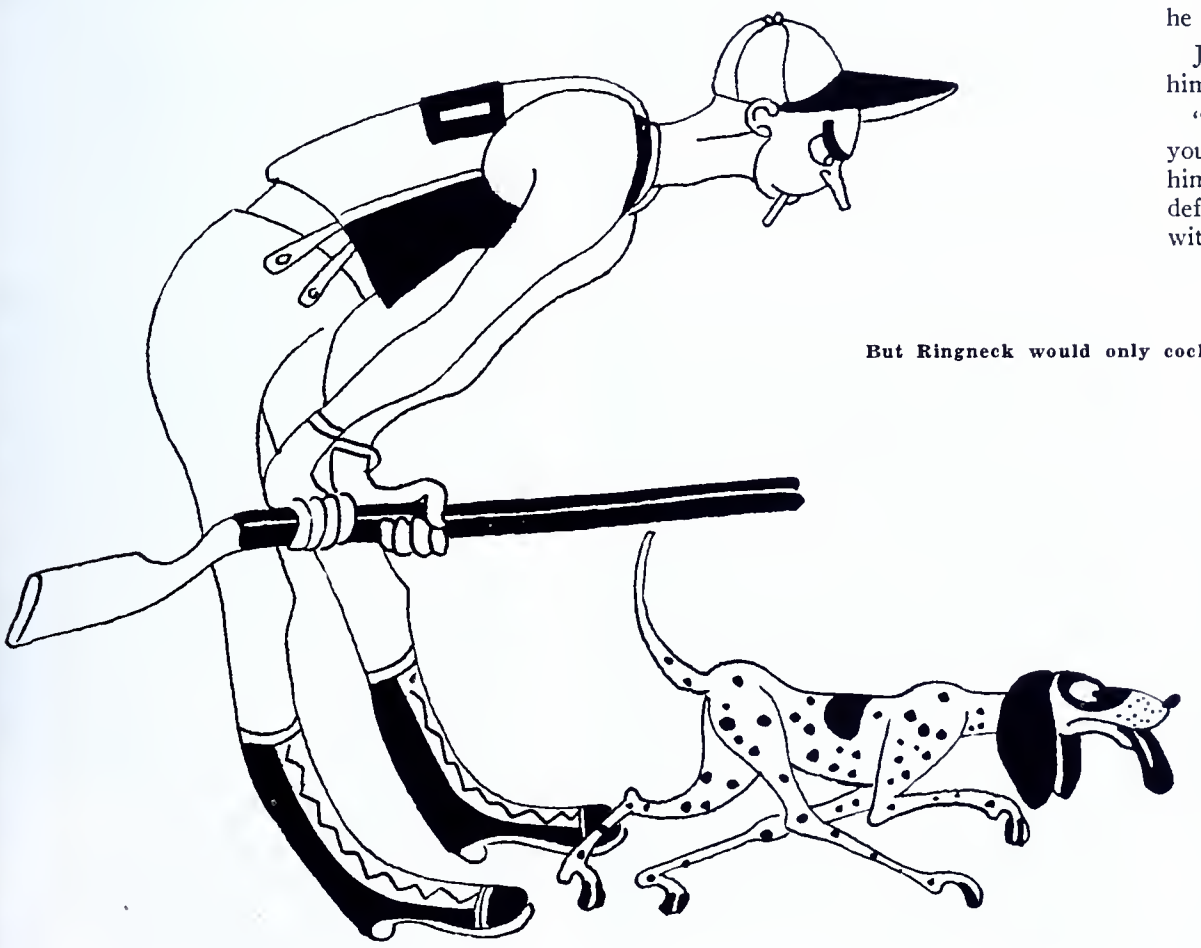
Jim squinted along the double barrel. He swung it carefully along the line of flight. A foot lead at that point was just about right and his hand slowly started to contract. Then he heard Ringneck cackle in protest.

He hesitated a second and a broad grin spread over his face as he lowered his gun.

As Ringneck vanished into the woods he heard Jim's crude cackle float after him and he knew he was safe.

Jim looked sheepishly at Cap who was eying him with disgust.

"You'll excuse me for not shooting, won't you, Cap?" he asked. "I couldn't bear to drop him when he cackled. Anyway he admitted defeat and who can tell maybe he'll repay us with some good shooting next year."



But Ringneck would only cock his head and look wise.



COURT UPHOLDS COMMISSION'S REGULATORY POWERS

Decision Establishes New Principles in Pennsylvania Legal Procedure

THE decision of the Dauphin County Court in the 1938 Pennsylvania Antlerless Deer Case (Court of Common Pleas of Dauphin County, Equity Docket No. 1446, Commonwealth Docket 1938, No. 773) not only sustains the Pennsylvania Game Commission's regulatory authority, but establishes new principles in the adjudication of such cases in the Commonwealth of Pennsylvania.

Attorneys for the plaintiffs held that (1) the action of the Commission in declaring an open season for antlerless deer was not supported by sufficient facts; (2) that its action constituted an unlawful delegation of legislative power in contravention of the Constitution of Pennsylvania; and (3) that under the law the Commission was compelled to specify size, weight, and age.

The attorneys for the Commission, Hon. Guy K. Bard, Attorney General, Oliver C. Cohen, Assistant Attorney General, and John H. Fertig, Special Counsel, contended (1) that the plaintiffs in this case had no legal standing to inquire into the reasonableness of the rules and regulations promulgated by the Commission because their private rights, their contractural rights, and their property were not involved; (2) that they were questioning powers of governmental management; (3) that such rules and regulations do not delegate legislative power; (4) that the rules and regulations removing protection from and providing an open antlerless deer season were reasonable and proper; (5) that the Game Commission has power to confine the deer herd to the deer range and not to permit it to roam on farmlands and highways; (6) that in removing protection from and declaring an open season for antlerless deer the Commission is not required to fix a specified weight or age of the animals to be taken; (7) that when an open season is fixed for deer without visible antlers the Commission is not required to limit the number of hunters by issuing special permits; and (8) that the plaintiffs were barred from bringing action because they delayed the proceeding unnecessarily. These contentions were supported by numerous citations from court cases in other states.

Attorneys John Q. Creveling, of Wilkes-Barre, and John C. Youngman, of Williamsport, presented a brief in behalf of the Pennsylvania Federation of Sportsmen's Clubs, in which they held that the plaintiffs were guilty of needless delay; that the administration of the game of Pennsylvania is a scientific management problem; that no problem of delegation of legislative power was involved, and if so, it was not an unlawful one; and that the Commission's action was not an abuse of discretion.

The opinion of the Court, published in full below, is self-explanatory. It not only upholds the regulatory powers of the Game Commission and the action it took, but establishes a new principle in Pennsylvania legal jurisprudence; namely, that an agency such as the Pennsylvania Game Commission, when managing public property, is not subject to the same restrictions and limitations as a public agency dealing with situations where private rights are involved.

The decision of the Dauphin County Court in this case will have a far-reaching effect, not only in Pennsylvania but in other states where regulatory responsibility is placed upon game and fish administrative agencies.

OPINION OF THE DAUPHIN COUNTY COURT 1938 PENNSYLVANIA ANTLERLESS DEER CASE

(Rendered November 18, 1938)

STEWART A. LEHMAN, SAMUEL E. HOFFMAN, E. G. GRASER, FLOYD KEASEY, F. MARK BREAM, CLYDE L. BREAM, H. A. WAGNER, and M. A. NIEDENTOHL,

Plaintiffs,

V.

LT. COL. NICHOLAS BIDDLE, ROSS L. LEFFLER, SAMUEL C. CASTNER, R. LAMBERTON, A. W. LEE, Jr., FRANK B. FOSTER, WILLIAM G. FLUKE, and JOHN H. PRICE, members of the Pennsylvania Game Commission; and GUY K. BARD, Attorney General of the Commonwealth of Pennsylvania,

Defendants.

In the Court of
Common Pleas of
Dauphin County,
Pennsylvania
Sitting in Equity
Equity Docket No. 1446
Commonwealth Docket 1938
No. 773

ADJUDICATION

A STATEMENT OF THE PLEADINGS SPECIFICALLY SETTING FORTH THE ISSUES RAISED THEREBY.

The original plaintiffs, as well as those intervening, are citizens of Pennsylvania, taxpayers, and holders of hunting licenses for the year 1938.

The defendants are members of the Pennsylvania Game Commission and the Attorney General.

The original bill was filed October 24, 1938, with an amendment filed November 9, 1938.

Answer to the bill was filed November 1, 1938, and supplemental answer to plaintiff's amendment filed November 10, 1938.

The issues raised by the pleadings are primarily questions of law.

Hearing was had before the court in banc, testimony taken, with argument November 10 and 11, 1938.

Learned and complete briefs were filed by counsel for the parties, and also on behalf of the Pennsylvania Federation of Sportsmens Clubs as amicus curiae, together with illuminating oral arguments.

It was the understanding that the hearing before the court should be a final hearing.

The controversy submitted is as to the validity of the resolution of the Pennsylvania Game Commission of July 13, 1938, establishing an open season for the hunting and killing of antlerless deer for the period of six days from November 28 to December 3, 1938; particularly as applied to the counties of York, Adams, Cumberland and Franklin, comprising what is called the South Mountain area.

It is further alleged by the plaintiffs that the resolution of the Commission and its action in accordance therewith is unreasonable, arbitrary, and an abuse of its discretion; and that the provisions of section 501 of the Pennsylvania Game law of 1937, under which the Commission purports to act, is an unlawful delegation of legislative power in contravention of article 2, section 1, of the constitution of Pennsylvania.

Plaintiffs further assert that the fixing of an open season for all antlerless deer without minimum age or weight, open to all licensed hunters and covering all the counties and areas without regard to the number of deer in each, violates the express requirements of the game laws and extends the powers over and upon the Game Commission.

THE ANSWER

traverses the material allegations of fact and denies the legal assertions of the bill.

FINDINGS OF FACT

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1. Prior to adopting the Commission's rules and regulations of July 13, 1938, which include provisions regarding deer and other game, a careful statewide study was made by the Game Commission and its officers, agents and representatives, with special reference to the deer herd; the result of which was laid before the Commission and a joint meeting of the directors of the organized Sportsmen of Pennsylvania in May, 1938, all of which was given study by the Commission, resulting in the resolution of July 13 when it adopted findings of fact and resolutions fixing the seasons, bag limits, etc.

As the result of the investigation and study the Commission among its findings of fact found that the deer herd has become entirely too large for the available forage supplies to sustain it in such condition that it may normally be expected to propagate its own kind in a biologically sound manner; also that the sex ratio is badly unbalanced and should be corrected, necessitating a reduction in the size of the herd through the declaration of an open season of six days on anterless deer this year, with no open season for anterlered male deer; and to accomplish these objectives hunters should be allowed to take antlerless deer with the regular hunting license wherever such license is required without the issuance of special control permits as authorized by section 501 of the game laws.

2. The Commission did not separate the particular counties of Adams, York, Franklin and Cumberland from the others, but took them into consideration along with the counties through the state generally.

3. There is a shortage of food except in a few limited spots in the true deer range in the four counties in question, as well as in the rest of the Commonwealth.

4. The nature of deer and their natural food supply at this time requires the action of the Commission complained of in order to carry out the declared purposes of the Commonwealth to protect, propagate, manage, and preserve the game.

5. On the four counties of the South Mountain belt there is too little food supply for the deer roaming from time to time in that region.

The conditions are not as bad in that section as in other areas; and there are counties where the deer population per square mile of deer territory is more dense.

6. The purpose of the Commission in the action complained of is to so regulate the deer herd that it will be maintained in its best condition, and at the same time so that the deer will not materially destroy and affect the food supply of other kinds of game.

7. In the action of the Commission no age or weight limit was fixed regarding anterless deer. The subject was considered in the light of experience, and it was concluded that the attempt to do this so as to avoid the killing of young deer was almost physically impossible and very impracticable.

8. The Commission had the advice and assistance of the Federation of Sportsmen's Clubs. Local Sportsmens Clubs in various counties belong to a kind of Federation, and they together are organized into a Division Federation, and all of them in turn attached to a part of a state wide Federation covering about 60 of the 67 counties of the Commonwealth.

After hearing the evidence presented and seeing the results of the research study the officers and directors of the Federation of Sportsmens Clubs adopted a resolution recommending to the Pennsylvania Game Commission a statewide open season for antlerless deer this year, and no open season for male deer.

9. Deer conservation work is a science taught in the colleges of the Commonwealth and elsewhere.

10. In the South Mountain range there is not sufficient food for the present deer herd. The result is a deterioration in the size of the animals, their general health and physical condition. It also has the effect of crowding them on neighboring farms to forage. Also the food and cover on the forest floor is denuded to the detriment of otber game, such as grouse, rabbits, and quail.

11. In 1931 there was a closed (an open) season in the South Mountain range which resulted in the material reduction in the number of animals using it. There are now a great many more than there were immediately following the 1931 season.

12. To allow a further increase of deer in the South Mountain range will be a constant source of annoyance to land owners, and will seriously affect the small game cover and food in the various areas.

It will also be a menace on the highway.

13. The true deer range consisting of territory adapted to the normal, natural life of deer in Pennsyl-

Court Upholds Game Commission's Regulatory Powers

vania, is approximately 8,000,000 acres. In the last 20 years no deer have been planted in counties other than those which lie in the true deer range. The deer found in tbe South Mountain range drifted there because of food conditions, or being frightened by the large number of hunters.

This is tbe process by which parts of the deer herd have drifted until some are found in every county of the state, in many of which the conditions are unnatural and undesirable. Of the 1579 townships in the state deer may be found in all except 75. Numerous complaints from damage of farmers and orchard growers have induced the legislation authorizing the Commission to furnish deer-proof fencing to the large extent of, to wit: $10,000 per year. Farmers have also been permitted to kill deer committing depredations on their crops, gardens, and orchards. Complaints have been made by the Department of Forests and Waters about the deer herd. The deer eat the seedlings set out in the attempt to conserve and increase the forests. All of these things were taken into consideration by the Game Commission before its action of July 13.

14. General resident hunter's licenses for 1938 approximate 600,000. Not more than 1/3 of them hunt deer.

15. Publication of the resolution of July 13 was made twice in each of two papers in the various counties. The final notice was August 27; the first being August 10.

16. In 1925 (1935) there was on apen season for antlerless deer when no permits were required. In 1931 was an open season for the entire state, with no permits required, and in 1928 the entire state was open for antlerless deer without permits, and no bucks were allowed to be killed.

17. In order that there might be ample time for deliberation, advice and objection the Commission this year sent out its notices at least two months ahead of the time which had been practiced in former years; and the notices to the newspapers were mailed out on August 9 instead of waiting until October.

18. It is probable that there are considerably more than 1,000,000 deer in this Commonwealth.

19. In the South Mountain where for every buck of breeding age there are at least 15 other deer, principaily females. This is a bad condition from a biological and conservation point of view. The more correct biological ratio for deer in the wild state would be one buck to one doe. This conclusion is arrived at by biologists from accurate reports in the forests of Germany for a period of upwards of 900 years.

20. It would be inexpedient and impractical to regulate the deer problem in the South Mountain area by itself because of the management of kills in the attempt to regulate hunters in one particular area. It was tried in 1936 with great disadvantage.

21. The deer herd is too large, and the ratio of the sexes is unbalanced throughout the Commonwealth.

The action of the Commission complained of was not unreasonable, arbitrary or oppressive, nor an abuse of its discretion.

22. The action of the Pennsylvania Game Commission in declaring the open season was supported by facts sufficient to justify such action, and the Commission made the necessary findings to support its action within the powers delegated to it.

DISCUSSION OF QUESTIONS OF FACT AND THE LAW INVOLVED

The ownership, jurisdiction and control of the herd of deer in Pennsylvania are in the Commonwealth, in its sovereign capacity, as provided by the Game Law of 1937, P. L. 1225.

The management of this public property is a police regulation vested in the Game Commission which, as an administrative agency, is subject only to the limitations fixed by the Legislature.

On this Commission devolves the duty to protect, manage and preserve the game.

It must do so within the limitations of the authorizing acts.

Plaintiffs assert: That the fixing of an open season for antlerless deer, as attempted by the resolution of the Commission of July 13, 1938, violates the express requirements of the Act and exceeds the powers conferred.

The Act referred to is the Game Law of 1937, and what is said to be the express requirement violated is: That in section 501 of the Act which provides that the Commission may remove protection and declare an open season, through the Commonwealth or any part thereof, for any game, for certain reasons.

The open seasons are according to the table fixed by the Legislature, if in any year the Commission fails to establish some other seasons.

Then follows the provision stressed by plaintiffs: "Deer without visible antlers or horns of such minimum weight or age as shall be fixed by resolution of the Commission", and "No open season except as fixed by resolution of the Commission."

Plaintiffs contend that this means that the Commission may not declare an open season for antlerless deer unless, in the resolution, it fixes the minimum weight or age of such as may be killed; that the law is mandatory and is not complied with unless some minimum weight or age is fixed, even though the question has been considered and no minimum fixed; with the effect that any antlerless deer, no matter how small or young, may be shot in the open season.

Considering the whole Act and its expressed policy and reasonable implications, we are not convinced that plaintiffs' position on this point is correct.

The reasonable construction is that: The Commission may fix an open season in which deer without visible antlers or horns may be killed, with the exception of such deer as may be below the minimum weight or age, if such minimum weight or age shall be fixed by the Commission.

The position of the plaintiffs that the Commission may not fix an open season for antlerless deer, unless it shall fix such minimum weight or age, does not seem reasonable and is rejected.

Plaintiffs further insist that, even if the action of the Commission, in fixing no minimum of weight or age under which antlerless deer may be shot in the open season is not mandatory, the action of the Commission was an abuse of the discretion vested in it, and is arbitrary, oppressive and capricious.

Evidence received, subject to objection, fails to establish any basis for these charges.

On the contrary, there appears, without contradiction, to have been careful, expert and scientific performance by the Commission of its duty as agency of the Commonwealth to protect, propagate, manage and preserve the game of the Commonwealth in accordance with its laws.

The similar criticism is without substantial basis: That the resolution is defective in omitting specific findings of fact within the powers delegated to the Commission.

It is evident that the General Assembly cannot enact laws which shall keep abreast of the constantly changing status of the deer of the Commonwealth.

The case presented is not one in which any private rite is alleged to be infringed; and is not governed by such decisions as Holgate v. Bashore, 331 Pa. 255.

The doctrine of U. S. v. Grimaud, 220 U. S. 501, is applicable; which has been followed in other jurisdictions, such as People v. Soule, 213 Northwestern, 195 (Michigan).

This legislation for the conservation of public property is an exercise of the police power inherent in the sovereign. No private rights are involved. The Commission makes no new law. It determines the conditions outlined within the limits of the law, and pursuant to such determination promulgates its orders.

Such orders are not analogous to that class of laws, and the decisions under them dealing with commerce, public utilities, et cetera, where private interests are involved and hearings of those whose property or personal rights are involved are required.

Such authorized administrative orders, auxiliary to such purely police regulations of public property, are no more open to trial than the legislation authorizing them.

If this be correct, it is incompetent for the Court to enter into the wisdom of the order, or reinvestigate the conditions which led the Commission to arrive at its duly announced judgment.

The plaintiffs are allowed a privilege to be exercised under such conditions as may be imposed by the administrative agency of the Commonwealth. It is not competent for such licensees to invoke the interposition of the Court to determine whether the duly arrived at and publicly announced judgment of the Game Commission is, under the circumstances, wise. Such a practice would lead, as illustrated by the case before us, to confusion and would be practically impossible.

The offer made by plaintiffs as to the general conditions affecting the deer herd in the Commonwealth, and in the several counties thereof, might well have been excluded. The evidence received thereunder, however, was illuminating and showed nothing to sustain plaintiffs' case.

It was argued on behalf of the plaintiffs that the phraseology of the Act left the question of the open season for deer to the unlimited discretion of the Commission.

Section 501 provides that the commission *may*, by appropriate rules and regulations and so forth, declare an open season when, in its opinion, such action is necessary to secure the maintenance of an adequate supply of such species, or when an unbalanced sex ration exists which, in its opinion, should be corrected or when, in the opinion of the Commission, such additional open game season will not jeopardize the future supply of game.

It is said that the statute does not determine what limitations are placed upon the exercise of that power. In view of the whole Act and the public policy involved regarding this property of the Commonwealtb, this criticism does not appear to be valid.

The proper management of the deer herd depends upon the duly ascertained result of expert biologists and is a matter of scientific investigation and conclusion which cannot be arrived at by any general law.

The opinion of the Commission, after such due investigation as the evidence shows was made, is a fact; which, when evidenced by the Commission's resolution, becomes the basis for the application of the provisions of the law by the resolution involved in this case.

We are unable to reach the conclusion urged on the part of the plaintiffs for the fixing of the open season, as was done by the Commission, for antlerless deer, is unconstitutional or obnoxious to any valid objection.

It is not clear what rights any of the plaintiffs have which can or should be protected by the injunction prayed for. The result of the Commission's action is to enlarge the privilege of every licensee.

Practically, plaintiffs are asking tbat their privilege, together with others, shall be curtailed, at least in some of the counties, because in their opinion the conclusion of the Commission, after full investigation with the concurrence and approval of the organized sportsmen of the State, is not to their liking.

The police regulation and management of public property must necessarily be lodged in some administrative agency, subject only to the general limitations fixed by the representatives of the people.

The wisdom of the regulations may not be attacked and reviewed in such manner as is attempted by these plaintiffs without showing some material disregard of the limitations, or some abuse of discretion, arbitrary or capricious.

The whole record in this case fails to show any such vital defects. There is nothing to indicate that plaintiffs or any of them are or can be damaged by tbe action of the Commission complained of.

The argument regarding the unconstitutionality of the Act, because it delegates to the Commission legislative functions, is somewhat inconsistent. It is admitted that all of the Act is constitutional except the paragraph referring to deer without visible antlers.

There is pointed out no logical basis by which the delegation of the power to fix an open season for antlerless deer is unconstitutional, and the power conferred on the Commission by the same Act to fix an open season for elk, for instance, is constitutional.

In the limited time allowed for consideration of this somewhat complicated case, it would seem that the only point of substantial doubt is: Was the failure of the Commission to fix by its resolution a minimum weight or age of deer without antlers which might be killed, such an omission as made its action in that regard unauthorized by law. As has been intimated, in our opinion it was not.

The conclusion arrived at in the instant case is not in conflict but is in harmony with the decision of Judge Fox in this court, in Dietz and others against The Game Commission, 45 Dauphin County Reports, page 30.

Under all of the circumstances of this case, the failure of the plaintiffs to apply for the injunction more promptly impresses the Court that they should be charged with such laches as should warrant the Court in refusing equitable relief at this late date. They allowed fifty-nine days to elapse between the last legal publication of the Commission's resolution and the filing of their bill. Should the injunction be granted as prayed for, it would necessitate the revision and publication of other regulations which would be difficult, if not practically impossible; or, to allow a full discussion upon exceptions and a proper appeal to the appelate court, before the date fixed for the antlerless deer season, and in the meantime the fixing and enforcement of game regulations for the current season would be in a chaotic condition.

The uncertainty and the damage to the public interests would be disproportionate to any advantage to the plaintiffs.

Upon this record as it stands at this time, the prayers of the bill and the injunction prayed for will be refused.

CONCLUSIONS OF LAW

(1)

The fixing of an open season for all antlerless deer without minimum weight or age requirements, open to all licensed hunters and covering all counties and areas without regard to the number of deer in each, does not violate the requirements of tbe Game Law and does not exceed the powers conferred upon tbe Game Commission.

(2)

Plaintiffs are guilty of laches in failing to take action until too late to allow for hearing, consideration and decision by this Court and orderly review there of; and for other public action by the Commission in case it be required.

The bill was not filed until October 24, and the case brought before the Court, November 10 and 11. Only eighteen days remained for considèration before the open season. This was due to the laches of plaintiffs.

DECREE NISI

Upon the consideration of the foregoing case, it is ordered, adjudged and decreed as follows:

The injunction prayed for by the plaintiffs' bill is refused, and the bill is dismissed at the cost of the plaintiffs.

NOTE—The Prothonotary shall enter the decree nisi and give notice to the parties or their counsel of record of the entry of decree.

(Signed) HENRY C. NILES, P.J
Specially Presiding

(Signed) F. B. WICKERSHAM, A.L.J.

November 18, 1938.

CURRENT TOPICS



Typical of the Game Commission's mailing room during an influx of game kill reports. Is yours among them?

The Game Refuge System was recently expanded to include the following Primary Refuges: State Game Lands No. 60 in Centre County, 392 acres; No. 522-F on State Forests in Union County, 238 acres; No. 531-A, 630 acres; 531-B, 230 acres and 531-C, 360 acres, all on State Forests in Monroe County. Primary Refuges Nos. 511 and 522 were reduced in size and Primary No. 519-A on the Allegheny National Forest in Warren County was discontinued.

The following Auxiliary Refuges were established: No. 112-A, 37 acres and 112-B, 34 acres, both in Columbia County; No. 113, 46 acres in Lycoming; No. 114, 172 acres in Bedford; No. 115, 100 acres in Blair; No. 116-A, 39 acres, No. 116-B, 16 acres, No. 116-C. 5 acres, and 116-D, 43 acres, all in Northumberland County; and No. 118, 46 acres in Columbia County.

The American Humane Association announces the opening of its twelfth annual humane trap contest. The contest closes April 30, 1939; $550.00 in regular and $125.00 in special prizes is offered as follows:

Traps for taking animals alive and unhurt —First Prize—$150.00—Second Prize—$75.00; Leghold Type (Traps that hold without injury)—First Prize—$100.00—Second Prize—$50.00; Traps that kill humanely—First Prize —$85.00—Second Prize—$40.00;General Charles McC. Reeve, Special Prize, $50.00.

A total of $125.00 in special state prizes is also offered for entries from Illinois, Massachusetts, West Virginia and Wisconsin.

The purpose of these annual contests is to stimulate an interest in the development of humane devices and the use of humane methods for taking animals when necessary to take them. Humane traps will not only solve the humane trapping problem but also prevent wanton waste of our valuable wildlife.

All are eligible to compete. For entry forms or further information write the Wildlife Department of The American Humane Association, 135 Washington Ave., Albany, N. Y.

Your attention is again invited to the Fourth Annual North American Wildlife Conference sponsored by the American Wildlife Institute to be held in Detroit, Michigan, the week of February 13. The National Wildlife Federation will also be held in conjunction with the Wildlife Conference.

Hunting and fishing has increased 15 per cent in popularity in one year, according to figures recently compiled by The American Wildlife institute from official government data. The upswing took place in 1936, the last year for which accurate figures are available at the present.

In 1935 there were only 5,988,064 hunters' licenses and 5,832,448 permits to fish issued. This made a grand total of 11,820,512 licensed to enjoy both sports.

In 1936 hunters' licenses jumped to 6,658,158, or an increase of 670,094. Fishing licenses the same year went up to 6,901,587, representing an increase of 1,069,139. The total for 1936 was 13,559,745, or an increase of 1,739,233, which is 15 per cent higher than the 1935 figure.

These figures indicate that more than 10 percent of the entire population of the United States, which the United States Census Bureau estimates at 129,818,000, has been licensed to either fish or hunt.

R. A. McCachran, Asst. Director of Refuges and Lands, In Charge of Land Acquisition, was the guest of the Milwaukee Chapter of the Izaak Walton League of America on Monday evening, November the 28th, the invitation having come from the Hon. Haskell Noyes, one of Wisconsin's most prominent sportsmen and formerly chairman of the Wisconsin Conservation Commission.

The Northeastern Division of the Wildlife Society will hold its meeting in Boston next year, February 3 to 4 inclusive, in conjunction with the New England Game Conference.

Notwithstanding the heavy kill of antlerless deer during the past season, the Pennsylvania deer herd has not been jeopardized. While there was much needless carelessness, there is ample seed stock left in all the real deer country, and the herd will doubtless multiply just as rapidly as it has after previous antlerless seasons, following which the annual kill of antlered bucks has gradually climbed higher and higher. During the twenty-three seasons prior to 1938 Pennsylvania recorded a kill of 281,000 antlered bucks and only 150,000 antlerless deer.

Thousands of hunters respected the Commission's wishes and confined their efforts mostly to outlying territory adjacent to the farms, but others went to the extensive wooded areas where they had hunted deer in previous years. The heavy snow made travel difficult and reduced the kill in the big forest regions, and also greatly reduced the illegal kills and hunting accidents.

Even though the kill of illegal deer was needlessly large, early indications are that the percentage in relation to the total number of deer bagged will be considerably smaller than during the 1937 buck season. During the seven previous seasons when only one kind of deer was legal the average kill of illegal deer was one (1) to every seventeen (17) legal animals. The snow enabled sportsmen and officers of the Commission to spot illegally killed animals, and far fewer unreported carcasses remain in the woods than previously.

The number of accidents was considerably lower than previously due to snow and universal wearing of red. The fourteen-year average was fourteen (14) fatal and thirty-one (31) non-fatal. In 1931, when both bucks and does were legal, thirty-seven (37) men lost their lives and seventy-five (75) more were injured.

Notwithstanding the carelessness on the part of too many hunters, a higher percentage of them proved themselves to be real sportsmen than ever before. Dozens of hunters who made mistakes and killed animals with spikes or racks reported their mistakes immediately and saved $50.00. Other cases are under investigation and many $100.00 fines will be collected in the next few weeks.

Hunters everywhere reported an unexpectedly large percentage of "runt" deer in the woods this year, many adults being little larger than good sized fawns. This clearly proves the Commission's conclusion that the deer herd has been deteriorating due to lack of food. The number of bucks with large racks of antlers observed by the hunters was much smaller than anticipated, and sportsmen generally are commending the Commission for not allowing the killing of antlered bucks this year.

Due to the late fall, deer generally were fat and in excellent condition, but food conditions generally are reported as very unfavorable, and should the winter be severe thousands of small deer will perish by February and early March.

The complete figures on the kill of deer and hunting accidents will not be available until after this goes to press, but present indications are that the Commission's early estimates of approximately 100,000 deer bagged

CURRENT TOPICS



Over 1000 persons attended the dedication services of the Captain Phillip's Monument near Saxton recently.

will not be far wrong. Numerous interested sportsmen are again suggesting that when the herd builds up to the point where another antlerless season would be necessary the Commission should arrange to trap and transfer the surplus animals. "Those who make such suggestions do not know how difficult it is to trap widely scattered wild deer. To trap and ship 100,000 deer would cost about $1,500,000.00, or more than the entire Game Fund income for a year. All our real deer range is adequately stocked, and the remaining forty-seven states combined would not take 100,000 of Pennsylvania's deer and pay for the cost of trapping and shipment. Many of them have 'deer problems' of their own.

Even though the deer herd may temporarily have been thinned out too much in certain localities, in other sections early reports indicate that not enough deer were removed to relieve farm crop damage. This was true especially where landowners posted their lands.

The deer herd will again build up very quickly, and there is no need for alarm.

NOTES FROM THE FIELD

An interesting preliminary check on Livermore Controlled Shooting Area in Indiana County shows approximately 1000 Rabbits killed in this Area. A similar check, with less definite information, shows a like number taken on Farm Game Protect No. 50, Collier Township, Allegheny County.—Division Supervisor Rollin Heffelfinger.

In the Pond Eddy section of Pike County, Game Protector John H. Lohmann told me there were eighteen bears killed, sixteen of them being females. They were all very fat, feeding on an abundance of acorns that were present.—Division Supervisor Jay C. Gilford.

Mr. Aden G. Brinker, of Furlong, Pa., reports finding a dead carrier pigeon on his farm with Band No. IF38S54932. Any information regarding where this pigeon might have been released from will be appreciated by the finder.

"On November 6 there were two bucks fighting within about 100 yards of the refuge house. They could be very easily seen in the moonlight as they moved about, and you could hear their horns clanking together. I later put the spotlight on them but they were not the least bit afraid; they only ran a short distance, stopped, looked at the light a little while, and commenced fighting again. One was a four point, the other a six point."—Refuge Keeper Chester Siegel, Lycoming County.

"I went to the home of Mr. Bailer on November 20 to interview him concerning a deer reported seen in that vicinity with a wire cylinder covering its head. The wire cylinder, approximately 9 inches in diameter and 14 inches long, was evidently forced over the deer's head when it attempted to browse on flower plants encircled by the cylinder. Spikes about 3 inches long helped to make it secure. This deer was reported seen for approximately two weeks, and seemed to be getting along fairly well as the cylinder, open at both ends, was forced back in line with the nostrils."—Refuge Keeper Gilbert Bowman, Lackawanna County.

During the first fifteen days following the dedication of the Pymatuning Waterfowl Sanctuary on October 15, and the opening of the Commission's educational Museum on Ford Island, a total of 4,095 persons registered at the latter institution and over 17,000 visited it; during the first fifteen days of November 1,419 persons registered and the estimated number of visitors was 6,800.

Lieutenant Colonel Nicholas Biddle, President of the Game Commission, recently passed on a story he heard from Game Protector Arthur N. Frantz, of Monroe County. It seems that a certain farmer, who was violently opposed to the doe season, and who threatened to post all his lands, collided with a doe recently and sustained considerable damage to his automobile. In addition he discovered that a lot of spruce trees that he had planted had been clipped by the deer. The result was that overnight he became a strong advocate of the antlerless deer season and will open all his lands.

"A wit points out the dove brings peace and the stork brings tax exemptions. We've also noticed when the season is closed a pheasant invariably brings a Game Warden."—*Foreign Service, V.F.W.*



The above are officials from the Michigan Conservation Department who spent several days in our forests during the deer season. Left to right: I. H. Bartlett, in charge of Deer Conservation, W. A. Bergin, Asst. Chief Field Administration, and Joe Stevenson, Asst. Chief of the Game Division.

CURRENT TOPICS



White skunks are the exception not the rule.

"ODDITIES IN THE NEWS"

Unusual technique while hunting rabbits was demonstrated by Ed. J. Gaul, of Washington, Pa., who shot at one running along a fence. When he picked it up he found that he had collected not one but two rabbits. The other had apparently been sitting in the underbrush.

A driver and thirty women passengers were hurt seriously as a bus bound from Sheffield to Kane recently collided with a deer and then swerved into a ditch. The driver said the animal, a doe, became wedged in the steering rod, throwing the bus out of control.

Cameron County students were given the first day of deer season off because school authorities figured it would take an army of truant officers to keep the youngsters in classes.

Two bears and four cubs having a feast on dead deer in the middle of the highway near Kane refused to budge when Maurice Erickson came along in his truck. Erickson decided he wasn't in any hurry and waited patiently until the bears had finished their repast and ambled away.

PROGRESS IN THE ACQUISITION OF

IT develops that we have been somewhat remiss in not having kept sportsmen better informed of progress being made in connection with the Land Purchase Program. Much to our surprise we find that we have not published in the GAME NEWS the various tracts which have been acquired since August 1937. Our apologies are offered and now we will try to make amends.

All tracts for which titles have been secured since those reported in the August 1937 issue of the GAME NEWS are listed in the following statement. They brought the aggregate area of State Game Lands to 588,418.5 acres and in addition to this approximately 43,780 acres are under contract for purchase.

TRACTS CONVEYED BETWEEN AUGUST 1937 and OCTOBER 1938

County	*State Game Lands Number*	*Grantor*	*Acres*
Armstrong	137	R. R. Hodgson	1,113.8
Bedford	Addition to 48	Arthur P. Baugh Jr.	600.0
		Bedford Lumber Company	1,646.2
Bedford	Addition to 97	S. G. Burket and wife	255.7
Blair	Addition to 118	Borough of Williamsburg	105.6
		Borough of Williamsburg	105.8
		Mrs. Juniata Tinkham	50.8
Blair	147	Altoona Properties Inc.	2,432.0
		County Commissioners	559.5
		Elizabeth Patton Hemphill	393.2
Bradford	Addition to 12	Charles Wernett	97.3
Bradford	142	Pennsylvania Joint Stock Land Bank	277.7
Bucks	139	Rock Hill Granite Company	154.2
		Samuel L. Musselman	5.1
Butler	Addition to 95	John C. Royle Heirs	118.1
		A. Shidemantle Heirs	179.5
Cambria	Addition to 108	George Grazonick	8.5
Carbon	Addition to 129	Jacob C. Loose	454.1
Carbon	141	Harry C. Trexler Estate	1,099.1
Centre	Addition to 92	Edward M. Bate and others	198.7
Clarion	Addition to 45	S. B. Boocks and others	117.3
Clearfield	Addition to 90	Grampian Rod and Gun Club	401.2
Clearfield	Addition to 120	Hugh M. Irvin Estate	1,746.4
Crawford	144	Mrs. Katherine Streich	105.1
		Crawford County Commissioners	151.0
Crawford	146	Herbert Borrell and wife	495.8
Crawford	152	Aletha B. McBride, Extrx.	97.0
	152	James A. Kearney Heirs	252.0
Elk	Addition to 25	Manor Real Estate Company	13.29
Elk-Cameron	Addition to 14	Kaul and Hall Oil and Gas Company	1,621.8
Fayette	138	Carnegie Land Corporation	1,387.3
		James C. Scholl ¾ interest in; Union Trust Company ¼ interest in	1,030.7
Fayette	Addition to 51	George A. Leapline	15.5
Fulton	Addition to 53	Robert G. Alexander	11.3
Fulton	Addition to 65	Nicholas Snyder	395.0
Fulton	Addition to 128	J. B. Pittman	161.2
Huntingdon	Addition to 81	Altoona Properties Inc.	247.9
Juniata-Mifflin	Addition to 107	Borough of Lewistown	16.6
Lackawanna	135	Charles P. & Myra O'Malley	300.5
		Herman Hagen Estate	416.9
		Alfred P. Hagen and others	254.3
		Charles F. Wagner and wife	167.2
Lancaster	136	Marvin S. Evans	91.0
Lawrence	148	Administrator of Katharine E. Vance	89.5
		Administrator of Katharine E. Vance	50.8
		Mike and Minnie Klutt	77.3
		Samuel Shurlock	46.4
Lawrence	150	Rufus M. Lutton	63.3
		Ruth K. Schultz and others	119.1
Lawrence	151	Will B. Hamilton and wife	180.8

CURRENT TOPICS

STATE GAME LANDS—By W. Gard Conklin

Lebanon	145	Department of Military Affairs		2,157.3
Luzerne	Addition to 119	Hugh R. Lewis		1,080.7
Luzerne	149	George Fox, Jr.		428.7
Lycoming	134	R. W. Thomas		696.8
		G. E. Rohrbach and others		871.4
Mercer	130	Patrick Flynn and wife		50.6
		J. A. Winner Estate		75.0
Monroe	Addition to 129	Francis J. Faust and wife		389.1
Somerset	Addition to 111	C. L. Shaver and wife		584.7
		Rosie Durst, et al		17.7
Sullivan	Addition to 66	Payne P. Sturdevant and others		1,295.1
Susquehanna	140	Federal Land Bank of Baltimore		304.3
Susquehanna	Addition to 35	A. M. Summers and others		199.9
Tioga	Addition to 37	Mrs. Lenna M. Gibson		1,160.7
		Daisy Loveless		532.2
		Elmer K. Snell Estate		393.8
		Matilda D. Jones		46.9
		Tioga County Commissioners		51.0
Venango	Addition to 39	Lewis B. Hart and wife		89.7
		Lewis B. Hart and wife		.2
Warren	143	C. R. Moore and wife		4,508.7

The Commission, at a meeting held October 5, 1938, accepted 14 offers, conditionally accepted 8 others, and made counter offers for 15, most of which were agreed to. As this is being written, purchase contracts are going through the process of execution. The following statement (or the statement on page) includes all tracts acted on October 5 which will definitely be under contract for purchase before this article appears in print.

TRACTS APPROVED FOR PURCHASE OCTOBER 5, 1938

County	*Township*	*Adjacent to*	*Owner*	*Acres*
Bedford	Londonderry	104	Edward F. Shroyer	106.0
Blair	Catharine	Beaver Dam Section	R. T. Norment	1,757.0
Bucks	Haycock	Other tracts under contract	Anna Zimmer	5.0
			Webster Zinger	12.0
Erie	Wayne	Other tracts under contract	Fred Wallace	50.0
Erie	Amity	Other tracts under contract	Otto C. Bueg	180.0
Fulton	Belfast	65	R. G. Alexander	100.0
Northumberland	Zerbe, Coal & Shamokin		Whitmer Steel Co.	1,271.0
Schuylkill	Washington		Federal Land Bank	248.0
Somerset	Lower Turkeyfoot	111	The County Trust Co.	180.0
Warren	Pittsfield	143	Minnie C. Lindblade	125.0
			Minnie C. Lindblade	275.0
			May Ball DeForest and others	100.0
			E. W. Anderson	125.0
			George E. Seavy	520.0
Wayne	Lebanon	Tanners Falls Development Co.	R. B. Henderson	208.0
			David D. Gager	40.0
			G. D. Gager	60.0
			R. J. Stiles	65.0
			Pearl G. Shuman	200.0
			Pearl G. Shuman	65.0
Beaver	Ohio	Beaver Trust Company	Mrs. Susan Laughlin	166.0
Schuylkill	West Cameron	84	Kulp Lumber Company	84.0
Northampton	Moore		A. H. Rauch Estate	725.0
Columbia	Beaver	58	Mrs. Mary Klingerman	400.0
Luzerne	Bucks & Bear Creek	91	Lily L. Seneff and husband	1,380.0
			Lily Lewis	1,866.0
Luzerne	Dennison	119	Luzerne Ochre Manufacturing Co.	1,241.0
Huntingdon	Cromwell	99	R. D. & J. F. Whitsel	483.0
			R. D. Harper and wife	397.0

"ODDITIES IN THE NEWS"—Cont.

Tularemia is never transferred from man to man. Infection comes from contact with an infected rabbit or other small field animal or from an insect that has fed upon an infected animal.

Harold Tobey, general foreman of the Ontario and Western Railroad roundhouse at Childs, is pondering whether he went on a hunting or fishing trip recently.

While stalking pheasants his attention was diverted to the swift dive of a fish hawk into Robinson Pond. Tobey drew a bead and brought the bird down. When he recovered the hawk he found a three pound pickerel clutched in the bird's talons.

Mr. Joseph Wright of 1200 Bartine Street, Harrisburg, was carrying a doe through the woods when a fellow hunter took a crack shot at it thinking it was alive. However, the bullet went through the sleeve of Mr. Wright's coat thereby causing him to drop to the ground. As he arose the so-called "sportsman" took to his heels and made a quick get-a-away without lending any assistance whatever.

George W. Gates, of Beavertown, had the peculiar and exciting experience of seeing his dog chase a rabbit directly towards a big buck. It was a surprise encounter all around, but the big buck acted first, catching the dog on his antlers and throwing him back over his head. The dog yelped at this peculiar turn of events, and with blood streaming from his side made a bee-line for home.

Racing into the Derry engine house of the Pennsylvania Railroad Company a big buck deer with a fine rack created plenty of excitement. The deer came up along the railroad track, through a building which was connected with the ash pit and leaped toward the turn table pit. Safely negotiating the turn table pit he dashed into the engine house. After running around inside this building the animal found an open window and with a flying leap cleared it and departed south toward Chestnut Ridge.

While returning from Homestead, Lawrence Montgomery, of New Castle, had the unusual experience of having a doe deer jump completely over the hood of his automobile and scamper away unhurt into the woods on the other side of the road.

STOLEN

Model 29 Remington Pump, No. 33407. If located notify Lawrence Basso, 496 Girard Street, Atlas, Pennsylvania.

LOST

All tan hound dog named Trailer. Lost near Unger's Gap, Dauphin County, Saturday, November 5. If found notify Arthur J. Ransom, 2432 Elm Street, Penbrook, Pa.

HOW A MUSEUM SERVES CONSERVATION

(Continued from Page 19)

object in its three dimensions. Teachers are well aware that assorted facts, ideas, and theories, ordinarily difficult to put across, remain steadfast in the mind if interpreted through some visual means, whether it be the motion picture of a forest fire or the specimen of an owl. Second, the schools, at least the forward-looking ones, realize that a knowledge and appreciation of natural history not only increase a child's information but leads to a better understanding of the world and can enrich and make happy a whole life-time.

But there are other opportunities, besides the formal classes for learning and enjoying in a museum. A museum as a center for natural history information can also be a center for fun and entertainment. Every Saturday morning, groups of youngsters swarm up the steps of the Academy of Natural Sciences to take part in one of its several nature clubs. Here there is many a chance to sketch the exhibits, study the habits of live animals in miniature zoos and aquariums, compile scrap books and play nature games. Older children with more advanced interests can make nature collections which teach them much. Or they can study the behavior of creatures with the intent of professional scientists, compiling formal reports and holding discussions on their investigations.

This autumn the clubs chose the topic of conservation for their activity. The junior group of youngsters, from nine to twelve, divided themselves into sections and chose the particular subjects they found of most interest. Their topics included a lumber camp, a scene after a forest fire, a flood, a coal mine, a polluted river, a fish hatchery and a game preserve. Each group drew up its plans and sketched them on paper. The actual construction began after the plans received the approval of the Museum staff member who acted as club leader. The group found that they could express their ideas in such a variety of materials as plaster-of-paris, modelling clay, wood and cardboard. The children look forward to exhibiting their project in a Club show at the end of the year. On the other hand, the older club spent some time in discussing the general topic of conservation. They witnessed a short movie which illustrated a number of points. Then, they chose individual subjects for their own study. Later, each one will present before the group a paper with their findings. They also aided the younger club by selecting subject for the construction projects.

At the same time, the educational program at the Academy does not neglect the interests of grown persons. It provides gallery tours in the Museum and sends out members of its staff to lecture to church and social clubs, parent-teacher organizations and many others. Recently, the educational department offered a popular series of natural history talks over the Philadelphia radio station, WIP. These "Expeditions to Everywhere" broadcasts consisted of informal discussions, as well as dramatized presentations of expeditions in far lands as well as trips through the Museum. Another educational service of the Academy of interest to a wide audience of grown people as well as children is the popular publication, "Frontiers": A Magazine of Natural History, which contains articles on a variety of phases of nature.

Also, the Academy concerns itself with outdoor nature recreation for young people as well as the older generation. With its scientific resources and educational staff the museum is in a unique position to serve the nature interests of a wide community. Important is the fact that there exist a multitude of sources of nature interest in the metropolitan district of Philadelphia. Within the urban area is the Fairmount Park system, a series of perserves of some 3,800 acres, the largest natural park located inside the limits of a city. Here wind trails through woodland glens where a few blocks from the roar of traffic one finds forest trees and an abundant bird life during spring and fall migrations. At the city's edge, within reach of trolley line or bus there are marshes in which waterfowl alight in the quietness of the reeds. Nearby lie fields and woodlands where plant and insect life is rife three seasons of the year. Up until recently there has been no organized effort to make the most of these nature resources in the way of revealing and explaining them to city dwellers.

This summer the Academy offered a nature recreational program for all classes of persons who were forced to remain in the city. It comprised a series of offerings of travelogue and nature lectures, gallery tours, clubs and training courses for nature leaders in summer camps and at playgrounds. Especially attractive to adults, eager for nature adventures but lacking guidance were the "Expeditions in Philadelphia". These were nature field trips, conducted by the Academy's educational staff in nearby city parks. So popular did this service prove to be, a total of some two thousand persons took part in the various activities. At popular request an additional series of local field trips was scheduled for the fall months, which were held on Saturday afternoon so that business men and women could take the fullest advantage of the opportunities. And it is worthy of remark that the principle of conservation was the recurrent theme of these varied meetings. For the participants, both young and old, soon discovered that the nature-minded person is as well a conservation-minded individual.

TAKING CONSERVATION INTO THE SCHOOLS

(Continued from Page 15)

The third phase of this part of our educational program, and one which naturally follows the first two mentioned, is to obtain the actual teaching of conservation in our schools. We feel that conservation is of great enough importance that it should be taught from the first to the twelfth grade in every school—city and county—negro and white. However, a study of the results of twelve years teaching with an adopted course and textbook in the fifth grade, made us believe that there should be better methods to teach conservation than through courses enforced by law.

Conservation, health, safety—any set of important attitudes—may be taught in several ways. The traditional method is to adopt a text and teach directly from that text, at a certain hour every day for a certain number of weeks. Fortunately, I now find that Tennessee was one of only a few states to pass a law requiring the teaching of conservation in any particular grade and in this manner. To those of you in other states who might be thinking of initiating similar action, I would like to say that I believe there *is* a better method of obtaining the teaching than by this enforced method. The State Department of Education in Tennessee has for the last five years been doing extensive work in the improvement of the existing curriculum—in an effort to get away from the traditional teaching method where the teacher was a slave to the text.

In the traditional old fashioned school of America the textbook is almost as important as the teacher. Most teachers follow the textbook page by page with no variation. The teaching procedure of the text is accepted. We feel that, particularly in conservation, any text must be too narrow in several ways for the proper teaching of the subject. A text is too limited in the amount of suitable material and it is too didactic and pre-organized. Even the existent flood of improved textbooks is insufficient to serve the need of the child who is developing as he should. To meet this problem, the Department of Education has developed in our state a method of instruction that has been developed in several other states —a system of teaching by the use of *units of work*, based on actual conditions and experience.

A teaching unit which makes use of local conditions and local problems—it is based upon real and meaningful situation so that the formal tools of reading, writing, and arithmetic are not learned in isolation. This does not mean that these basic principles are not learned. They are introduced as they are needed and there is ample evidence that they are learned more readily and permanently in this way—that is, through application. In other words, why can a child not learn Arithmetic just as well by the use of problems involving the increase of game, forest fire loss, lumbering operations, etc., just as well as by the use of problems involving the sale of so many dozens of eggs by Farmer Brown?

Why cannot it be possible to learn English and Science, and Fine Arts, by the use and study of conservation problems? We believe that in this way—teaching through, and in terms of, experience—real conservation attitudes can be developed just as are attitudes regarding health, safety and social responsibility. In short, in Tennessee we are seeking to teach conservation by the use of teaching units which may be integrated with every existing course in the present curriculum in

TAKING CONSERVATION INTO THE SCHOOLS

such a way that the formal tools of learning are acquired through the means of conservation as a general theme. We have then in our own minds abandoned the idea that conservation can best be taught by means of an adopted textbook and we are turning all our facilities and ability into an effort to cooperate with the State Department of Education in the preparation and use of conservation teaching units, applicable to every grade and every course from first to twelfth grade, in every school in the state. We do not believe that it is the function of the Department of Conservation to prepare these teaching problems—in short, by regularly constituted teaching authorities.

Methods of preparation which we are using at present might be summed up as follows: in connection with the larger teachers' colleges of the state, there are training schools for practice teachers. Trial teaching units are being prepared by teachers and then used in these training schools. Other teachers have prepared teaching units during summer months at teachers' colleges and then applied their work during the school year in their particular schools. After they have then tried these units, they are taken by teaching authorities into the curriculum "laboratories" of our three largest teachers' colleges where they are studied and discussed and put into better shape. During this present summer, fundamental or "key" units—are being prepared in the largest curriculum laboratory of the state—The Peabody Teachers' College. The best known teaching authorities of this, and several other states, will put them into best possible shape and they will be distributed in printed form this fall to every teacher in Tennessee.

At another of our teachers' colleges, the one situated in East Tennessee, the whole theme and discussion of work during the summer months will be conservation and conservation teaching. 150 selected teachers will go over all available teaching material in an effort to produce better teaching units for use in the schools. It is our hope as years go by, these groups will continue each summer to evaluate and study the teaching materials that have been used to date and make changes that will increase its efficiency. Conservation Department personnel meet with these groups at every opportunity. We do not tell them how to teach conservation but we tell them what we as conservation experts know should be taught. In this way we are assured that the right kind of subject matter is being used.

In an effort to increase interest among teachers in the use of teaching units, we have selected 300 schools, evenly distributed throughout the state, where conservation teaching by the unit method will be used during the coming year in every grade and in every course. In short, these schools will be demonstration schools—schools where proper conservation teaching is demonstrated. Through the use of our conservation trailer and visits from Department personnel, we will work very closely with these selected teachers. In order to make the work in these particular schools of the highest possible calibre, in connection with about one-third of the selected demonstration schools, we will have demonstration forests and game areas where the teachers and students can work out in the open and observe the things that we are trying to get over to them. Our demonstration schools are being selected by the Commissioner of Education of Tennessee. The response among the teachers has been so great that our only problem to date has been limiting the number to 300. Teachers from these demonstration schools will report upon their work at the regular county teachers' meeting so that other teachers will know what is being done and will see some of the possibilities along this line.

Next year we believe that it will be possible to have at least 1,000 schools where conservation will be taught in this same manner. The key note of our whole program as I have explained it, is to get teachers and teaching authorities to realize their responsibility in teaching the proper use of our environment. Conservation education is a lot more than telling students where the fish hatchery and game farms are situated and how they are operated. That, frankly, is one of the least important phases of conservation as we see in teaching it. We are trying to have our teachers teach conservation as the proper use of the land, teach the realization of man's utter dependence upon his environment. Our motto is: "The proper use of every acre and every acre in proper use." We consider the Department of Conservation as merely the activating agent in conservation teaching. We might be well likened to catalyzing agents.

It is our job to hasten the reaction—to sell the teaching authorities on the job we want them to do, to speed it up when necessary and to see that the proper subject matter is taught.

To back up the teaching of conservation in the schools is our job. To do that we must produce a large amount of factual material—teachers and students alike should be able to write to our Department and receive publications that will answer pertinent questions on conservation. With this fact in mind—we are preparing a large amount of material on forestry, soil conservation, game and fish, etc., which is available to the teachers and to the students. We will make continued and thorough use of our conservation trailer visiting particularly schools where conservation teaching is taking place. We believe there is an important place for visual education in this program. The U. S. Department of Agriculture has, as you all know, produced fine motion pictures and film strips relative to conservation. However, we feel that to do our job right it is now time to produce our own movies and our own film strips, dealing with our local problems.

Motion pictures of the great fires in the Northwest are interesting and instructive but movies of our own forestry problems will be worth a lot more to us in our state. We have employed then as a part of our educational personnel a full-time photographer whose duty it is to make films and film strips of educational value showing our own pressing and important conservation problems. This work, we are glad to say, has been going on now for nearly nine months and we believe that these visual aids will be of far greater service and use to us than those that we can get from the Federal Government or from other states. We are making all of our visual teaching aids, motion pictures, still pictures, panels, exhibits of various kinds, available to schools in lending units. We hope to have by fall a series of lending units of stuffed birds which may be sent to schools, studied for several days then passed on to the next school. We feel that the Department of Conservation in every state has a big responsibility in supplying everything possible to make teaching of conservation easier and better.

In closing I would like to make one or two suggestions—one of our great difficulties in initiating the program I have outlined has been inadequate help—incomplete knowledge of what other states are doing. I believe the time has come when there should be a gathering of people interested in conservation education, a conference we might say, where educators and conservation administrators meet on equal footing to confer on programs, to discuss and to pass on interesting and helpful information. I realize that there have been several such conferences to date but their success has been questionable.

I am young in this matter of conservation but I have attended large conservation conferences and at not one of these has there been in attendance any educators, any men whose job it is to teach. I would like very much to see a conference where conservationists and educators could meet on equal footing in a discussion of this most important problem facing conservationists. Out of such a meeting could grow an organization that would pass on information to its members—it would help them in setting up educational programs and perhaps itself initiate the development of teaching units. I know that had there been any such organization two or three years ago we would he, in Tennessee anyway, just that much ahead of our program.

Honking geese continued their flight southward after a "forced landing" on the Alexander airport assisted by modern aids to aviation.

Airport attendants heard the flock circle the landing field last night. They decided the flock was air locked—unable to find a landing field—and ordered the floodlights turned on.

The flock settled, apparently exhausted, rested and then took off again.

Plants exceed animals in the length and shortness of their lives. Parrots may live longer than a century, elephants may live two centuries and apparently whales live several centuries. The Sequoias of California outlive them by attaining an age of fifty centuries. Certain bacteria have a life cycle of only 20 minutes, which is shorter than the life of any animal.—*From The American Wildlife Institute.*

It is surprising that so few people understand that deer feed primarily on succulent foliage and sprouts, and not grass. They *browse*, not graze.

Iowa and Ohio are now numbered among the states which have established special hunting preserves for archers only.

THE SIX-WEEK OLD PHEASANT PROGRAM

(Continued from Page 5)

Chapin's Grow-all Kernels or any high grade commercial growing mash of high protein content and kept continually before the birds. Filling feeders only half prevents the pheasants from wasting large amounts by billing it on the ground.

Grain feedings in the evening are necessary for carrying birds through the long nights. An evening feeding of wheat, buckwheat, oats and cracked corn should be broadcast on the ground each day, feeding just enough for the birds to clean up before dark. In this way the birds become accustomed to rustling for their food as they will have to do when liberated, and it also provides valuable exercise. In winter, if the ground becomes bare and frozen, spread some straw or hay in the pens and scatter your grain therein.

These grains should be fed in the following proportions:

¼ cracked corn	¼ buckwheat
¼ wheat	¼ oats

Grit and charcoal, which may be fed in ordinary wall poultry containers, must be kept before the birds at all times.

Ringneck pheasants are extremely fond of insects, including Japanese beetles, Bean beetles, Grasshoppers, Spiders, Ants, etc., and prefer these and other insects to any other kind of food. If there are Japanese beetles in your section it will pay you to trap these destructive insects in the inexpensive glass jar traps available at your local hardware store. When the jar is ¾ full of beetles, fill it full of cold water and dump the contents on the ground in your pheasant pens. The water soaks the beetles' wings, preventing flight, and the birds soon devour them.

In freezing winter weather it will be necessary to remove all water from the glazed fountains after the evening feeding of grain, filling them again in the morning. Good sized agate or enamelware pans about five inches deep may be substituted for the earthenware fountains during the winter. These cost very little and the ice is easily removed from them.

Complete sanitation within and around the holding pens must be practiced at all times. *This is very important.*

Feed spilled or billed out of the feeders must never be left to sour and mould on the ground, and must be removed each day. If your birds gain access to sour or mouldy feed you will probably lose every one of them.

Feeders and fountains must be kept clean and should be scrubbed and disinfected regularly. The regular BK poultry disinfectant is satisfactory for this purpose.

When a severe winter is encountered and the cover in your pens is depleted, shelters of corn fodder or evergreen branches can be provided. These may be stacked in the corners of single pens and against the centre division of double pens. Always provide two openings at the bottom so the birds can see daylight ahead.

Handling and Netting Birds

Pheasants should not be handled any more than is absolutely necessary. The birds are easily injured in netting and handling, unless great care is exercised.

For catching your birds, a regular gaff net frame such as those used by fishermen should be provided, having a handle at least six feet in length. The frame diameter should measure at least 14 to 16 inches. The net attached to this frame should be very sturdily constructed and of generous depth (from 28 to 30 inches). The net should be closely woven with no larger than ¼" mesh at the bottom portion and ½" mesh at the top.

Pheasants are easiest netted when running along the base boards of your pen. They may often be safely netted as they jump or fly in the corners. Always endeavor to net your bird with a "side sweep" of the net. *Never* bring the net straight down on your bird and always be going in the opposite direction from the one in which you intend the bird shall go. When he has entered the net, a twist of your wrist will prevent escape.

Pheasants may be handled without injury in several ways but the easiest hold is to grip the bird firmly by the two legs just *above* the leg joint (never below), placing your free hand gently but firmly across the back, holding the wings in place with your thumb and fingers. Hold the bird close to you as you do this. Never bring hard pressure on any portion of the bird's body as this is certain to cause injury. Practice makes perfect in handling birds as it does in everything else.

Treatments and Remedies

Prevention is always better than cure, and this particularly applies to the difficulties encountered in raising game birds.

Feather picking and gapes are the only afflictions which are likely to be encountered when rearing pheasants from six weeks of age. With pens constructed in accordance with Commission specifications, and with the birds receiving the prescribed diet and care, feather picking should never start. If it does, North Carolina Pine Tar, which can be purchased at any hardware store, should be immediately applied to the bird's back and rump (where picking is first suffered) and should be applied to every bird in the pen, not just to those afflicted. Plenty of roosting places, corn fodder and evergreen boughs, all of which furnish havens for escape, should be provided in the pen.

Gapes is an infection carried by earth worms, and this parasite multiplies in wet clay type soil and during protracted rainy periods. The Gape worm is red, shaped like a question mark, and attacks the bird in the windpipe. A bird so afflicted will gap at regular intervals (as a person yawns), and as the infection increases in severity it will sneeze and cough in an endeavor to rid itself of the parasites.

An excellent prevention and treatment in the early stages is to place just enough turpentine to cover the *surface* of the water, in each fountain daily. This treatment, when given in time, usually solves the problem.

If the infection persists and increases in severity, apply a dusting of Spratt's Blackerite, carefully following directions given by the manufacturer. This remedy can be obtained from Spratt's Ltd., Newark, N. J.

Liberating the Birds

Only birds which are sound, healthy and full-winged can be liberated. Unsound or partially winged pheasants fall early prey to vermin and unhealthy birds will be certain to contaminate the wild stock with serious results.

Young pheasants from 12 to 16 weeks old, liberated in the late summer are best released in standing corn or in clover or other crop fields adjacent to good cover. Whenever possible, it is best to release young birds while insects are still abundant, as the birds will subsist almost entirely on these while becoming adapted to the wild state.

Spring liberations must be made between March 1st and 20th and the birds should be released in sections where native pheasants have been known to feed and water during the winter. This will give your birds a start where their two necessities of life, food and cover, are sure to be available.

The six-week old pheasant program of co-operative game propagation by the Game Commission and organized sportsmen will improve and increase your gunning if properly carried on. By adherence to the Commission's rules, regulations and specifications, and by following the propagation instructions carefully, you will contribute your large share toward better pheasant hunting than the Keystone State has yet known.

THE MAIL BAG

"May I toss a few bouquets in recognition of the great strides you have made with the GAME NEWS. It is not only a more readable paper for hunter and non-hunter alike, but the intelligent handling of the trick problem of conservation is bound to help close the breach between the two camps."—Philip A. Livingston, Narberth, Pa.

"The constructive tone of the GAME NEWS has contributed greatly, in my opinion, to the advance in wildlife restoration throughout the country in recent years and to a greater interest in the conservation of the natural resources of not only Pennsylvania but all other states of the Union."—E. P. Cuningham, Wilmington, Del.

SPECIAL NOTICE

We sincerely apologize for the delay in publication of the new "Wildlife" bulletin offered with each two-year subscription of the GAME NEWS. There apparently has been some difficulty about getting the engravings to register properly, although we expect shortly to learn that the books are completed. The process is being run in six colors to insure the most correct reproduction possible and we feel sure you will be more than compensated for this long wait when the bulletin finally reaches you.

A RARE WINTER VISITOR—THE ROUGH-LEGGED HAWK

By DR. GEORGE MIKSCH SUTTON



THIS large eagle-like bird is a rare winter visitor or late migrant in Pennsylvania. Its slow flight is rather owl-like, and more than likely when it is observed hereabouts, it will be seen beating about the open fields, not far from the ground.

Rough-legs occur in two distinct phases of plumage—one known as the light or normal phase, and one the black or melanistic phase. In the latter phase the plumage is very dark brown, relieved only by the yellow feet and base of bill, and a whitish bar on the base of the tail. In the normal plumage the head, neck and breast are light buffy color streaked with dark, and the upper parts are warmer brown. The tail is prominently banded toward the tip. The underparts, however, are almost entirely black, from the breast down. In all plumages the bird's feet are feathered down to the toes, however. This characteristic, which is like that of the Golden Eagle, will serve to identify the bird in any plumage.

In Labrador, when the birds nest, they are known as "Eerts." They are quite common, and are, strangely enough, killed and eaten for food! Never having eaten one I cannot say that they are much of a delicacy.

Their nests are built on high cliffs, often in inaccessible places. Their sets of eggs are large, being often as large as six or seven. The eggs are strikingly marked with blotches of deep brown. The young birds which are downy white with pale gray feet and dusky eyes, are most attractive. During their first days of development they peep very much like little chickens. They are fed principally on mice, and almost never on birds. In fact the big Rough-legged Hawk is almost altogether a harmless species of bird and deserves protection.

The call of this bird, which has been given the name "Archibuteo" by the scientists, resembles that of the Red-tailed and Red-shouldered Hawks to a degree, but it is much clearer and louder, and has a peculiar ringing musical quality when heard in its native home along the Labrador coast.

A 30.30 SPEAKS—By Thomas Witherspoon

HI YA, fellars, well hyar I am again ole thirty thirty himself, all set to do a little chinin.

Ya see, I wuz a-talking with ole grandpap, K. Long Rifle, and believe me, that thar ole fellar shore can spin some tall ole yarns, and as he's a been in the boss's family fer generations, we sort a let him get away with em.

Wall, this hyar day I was a sort of kiddin him about Kaintucky, and how twaz too bad he weren't a Pennsylvanian, and no more than gut them thar words outen my mouth till he hops all over'en me.

Look hyar, young fellar, he sez, I'll have ye know I'm moren a Pennsylvanian than yow be. I wuz a borned rite down thar in Lanchester, Pa., and twuz us Pennsylvanians what settled ole Kaintucky, that air the reason they called us kaintucky longs.

All the settlers what went thar toted us with em, an when I sez toted, I mean toted, why in them thar days a fellar would just as lief went to church without his britches, as go thar without us.

Yes, suh son! Many a time I seed and heerd them redskins come a hoopin outen the woods.

Yea sez I, but did ya ever do any hunten in Pennsylvainy in yore young days? I knowed if I let him run on about fightin Injuns I jest never cud get him stopped fer hours.

Dag nab it, sez he, if you young bucks don't ask the dangdest questions, why son, I've hunted and traveled this hyar state frum A to izzard and seen more things than yow ever hurd of, and danged if I don't tell you sumthin I seed happen rite hyar in Pennsylvainy.

We was a liven out thar in Kaintucky, but one day the boss sez to his Mrs. that he was hankerin to go back to Pennsylvainy, so he packs the Mrs. and younguns in an ox cart and heads fer home. Well ater a couple months travel we cum to Fort Pitt, it wore jest a little settlement in them thar days.

While we air thar my boss, he meets an ole trapper friend, he tells the boss about some territory along the Tionesta Creek so the boss reckons to go look it over.

Wall, he leaves the ole woman and youngest brats at the settlement and takes the oldest lad and sets out fer the Tionesta. Now I've a traveled all over this hyar country and I ain't never seen more beautiful scenery than when we made that thar trip.

Wall, one morning the ole man sez to the lad, "Son I crave squirrel. Take old Patch (That wore me) an go fetch sum fer breakfast. The youngun picks me up, tates me over his shoulder, we ain't gone fur an I see him a looking up in a bunch of pines, course I looks up and see a big ole black squirrel up thar in top of one of them thar pines.

Wall, the lad sees him and gets me up to his shoulder, lines up my front sight "Wham" I speaks rite out, and I no moren speaks, till thars the gosh awfulist rukus ye ever heerd. Limbs fallen hyar, branches fallen thar, till I thought the hull forest was cumin down.

The ole man comes a runin frum camp to see what all the rukus is, jest as he gits thar sumpin hits the ground with a thud, we rushes over to see what it wore, and dag nab it if thar didn't lay a four hundred pound black bear deader than a mackeral. Gol dern it them thar trees wore so tall that thar bear just looked like a little ole squirrel way up thar.

Wall now, fellars, Grandpap K. Long Rifle kinda stretches the truth now an then, but if it is the truth fifty years frum now a fellar that hunts squirrels in Pennsylvany will have to carry high power glasses so he won't be a shootin bear outen season, cause our state shore is putin the conservashun of forests over with a bang.

WITH THE CLUBS

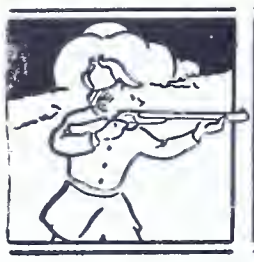
NEW CLUBS

Bunola Rod and Gun Club, Bunola, Pa. William Lewis, Secretary.

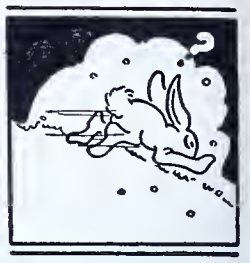
Members of the Palmyra Sportsmen's Asso-iation organized a corn husking bee on the arm of Mr. Harold Brandt. Mr. Brandt had been confined to a hospital with a broken leg, nd the local sportsmen's clubs got together and elped him out. That's what you call real pirit. At the end of the job Dan Wolf, estaurant owner of Palmyra, treated the group o refreshments.

The Izaak Walton League of Schuylkill County is offering $100 in prizes for building winter feeding shelters and bird houses. The contest is known as The First Annual Scout Conservation Project sponsored by the Izaak Walton League and promoted by the Local Scout Council. Only scout troops and lone scout patrols of Schuylkill County are eligible to enter. The set-up of the program is a very good one and it is suggested that other organizations interested in carrying on similar projects, write the League or the Department of Forests and Waters, 6 North Center Street, Pottsville, for sample.

The Morrisville Fish and Game Protective Association announces the formation of a Junior organization for boys between 12 and 16 years of age. It is the desire of the parent organization to teach the boys the principles of Safety, Good Sportsmanship and Conservation of Wildlife. A cordial invitation to all boys in the Morrisville area to meet at the Club Rooms in the Morrisville Community House is extended.



SPORTSMEN'S QUERIES



By CHAS. F. STAMBAUGH

KEEPING SKUNKS IN CAPTIVITY

Q. Is it permissible to keep a skunk in captivity at any time during the open or closed season?

F.H.I.—Emaus, Pa.

A. Skunks taken legally during the open season may be possessed alive indefinitely without a permit. We advise against keeping them in towns or cities where they may become annoying to residents.

* * *

TRANSPORTING DEER KILLED BY ANOTHER

Q. Is it lawful to transport a deer legally killed by another hunter, if the deer has been tagged as required by law?

"Deer Hunter"

A. Yes, it is. If the deer is tagged showing the name and address of the owner (the person who legally killed it), his license number and the county in which the deer was killed, it may be conveyed in an automobile or otherwise by any person *within the Commonwealth*. However, any person possessing wild game has a certain amount of responsibility as to the legality of such game.

* * *

HUNTING ON "PRIVATE GAME REFUGES"

Q. If a tract of land is surrounded by a single strand of wire and posted with notices reading "Private Game Refuge, No Hunting, Trapping, Fishing or Trespassing," may anyone hunt on this land with permission of the owner?

J.J.T.—Mineral Point, Pa.

A. Yes. Unless a Game Refuge is officially established and marked by the Pennsylvania Game Commission, the owner of lands marked as above may permit any person to hunt within the "refuge" whom he desires. A landowner has absolute jurisdiction over hunting rights on his property.

* * *

RESIDENT REMOVING DEER FROM PENNSYLVANIA

Q. I am a resident of Pennsylvania, now employed in New York State. Could you give me a written permit to bring a doe into New York?

A.M.G.—Syracuse, N. Y.

A. Sorry, but we cannot. Any deer or other game killed in Pennsylvania under a resident license cannot be removed from the Commonwealth and must be consumed within the State. No permits can be issued for the removal of game under these conditions.

ELIMINATION OF MAGAZINE SHOTGUNS

Q. Does the Game Commission intend to sponsor legislation which will eliminate magazine shotguns entirely in Pennsylvania?

"Interested Sportsman".

A. Absolutely not. The Commission has never favored legislation which would automatically compel a lot of hunters to throw their firearms into the river. The present three-shot restriction on magazine shotguns seems to be working out very satisfactorily.

* * *

LEGALITY OF BUCKS WITH SHED ANTLERS

Q. If a hunter kills a buck deer that has shed its horns, will it be legal?

A.G.—Clymer, Pa.

A. Yes, in the 1938 antlerless deer season. Of course, the buck must have lost its horns before the hunter shoots at it. The regulations provided for the killing of all antlerless deer, and after a buck had dropped his antlers he became legal game.

* * *

MILITARY SERVICE AND HUNTING RIGHTS

Q. My duties as a Medical Officer in the U. S. Navy have carried me to Norfolk, Virginia. My legal address as carried in the Navy files is Philadelphia, Pa. Am I entitled to a Resident Hunter's License in Pennsylvania?

H.H.E.—Norfolk, Va.

A. Under those conditions, you are. The Constitution of Pennsylvania provides that a citizen of this State who enlists in the military or naval service of the United States does not lose his claim to residence in Pennsylvania by reason of absence from the State in such service, so long as he continues to claim this State as his legal residence.

* * *

HUNTING SKUNKS AT NIGHT

Q. Is it legal to hunt skunks at night with a light and a club?

H.N.—Pottstown, Pa.

A. With a light, no; with a club, yes. However, to wield a club at night without a light is a rather hazardous undertaking, and I would not care to accompany you on a hunt of that kind. Raccoons are the only animals that may be hunted at night with lights.

LANDOWNER HUNTING ON HIS OWN POSTED LANDS

Q. If a person posts trespass notices on his property to keep off deer hunters, does he have the right to hunt on that land, and adjoining properties, including State land, without a license?

W.P.—Allenwood, Pa.

A. Posting one's own property does not prevent him from hunting for game in season without a license on those grounds if he resides upon and cultivates them. Unfortunately, the law does not prevent him from hunting on adjoining lands, if he has the owners' consent, except that he may not hunt on State lands for the reason that the State will not allow any hunting without license on Stateowned lands. In our judgment, any farmer or landowner who posts his own property against hunting, should not expect the courtesy of hunting to be extended to him by neighbors. This practice is entirely too prevalent in Pennsylvania.

* * *

POSTING OF LAND TO PROHIBIT HUNTING

Q. As a sportsman, I like to abide by the law and do not want to trespass where I should not. Just how should land be posted against trespass? What is the fine?

K.H.M.—Elkland, Pa.

A. The Pennsylvania Trespass Laws do not specify definitely just how lands shall be posted to prohibit trespass. There are two Trespass Laws now in effect in this State, the Acts of 1901 and 1905, the latter being the one most commonly used. Under the Act of 1905, to legally prohibit trespass, *the owner of the land* is required to prominently post upon said land, printed notices that the land is private property and warning all persons against trespassing thereon. This is the limit to which the law goes in specifying how posters shall be placed. They must, however, be posted by the owner or owners, so that a lessee or tenant has no right to post land. Offenders are liable to a penalty of not more than $10.00.

* * *

DUCK HUNTING WITH RIFLES PROHIBITED

Q. May I go hunting with a 22-Cal. rifle for wild ducks?

S.S.—Pennsburg, Pa.

A. Sorry, but you cannot. The present regulations as given us by the Federal authorities and officially adopted by the Pennsylvania Game Commission, require the use of a shotgun not larger than 10 Gauge, only, on wild waterfowl, and you must refrain from using a .22 rifle.

PHOTOS OF EXHIBIT CASES AT PYMATUNING MUSEUM, CRAWFORD COUNTY

OTHER PHOTOS WILL APPEAR IN SUBSEQUENT ISSUES

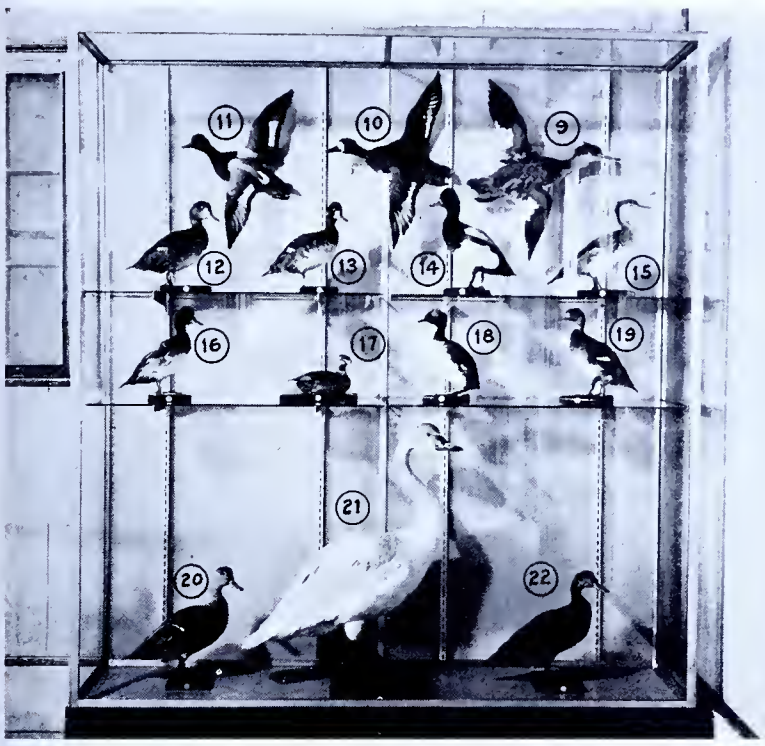


EXHIBIT CASE NUMBER 1

Specimen Number	Common Name	Sex	Season Plumage
9	Red-breasted Merganser	Female	Spring
10	Lesser Scaup Duck	Female	Spring
11	Lesser Scaup Duck	Male	Spring
12	Greater Scaup Duck	Female	Fall
13	Lesser Scaup Duck	Female	Spring
14	Lesser Scaup Duck	Male	Spring
15	Red-breasted Merganser	Female	Fall
16	Lesser Scaup Duck	Male	Fall
17	Pied-billed Grebe	Female	Summer
18	Horned Grebe	Male	Spring
19	Lesser Scaup Duck	Female	Fall
20	Mallard & Black Cross?	Female	Fall
21	Whistling Swan	Male	Spring
22	Black Duck	Female	Spring

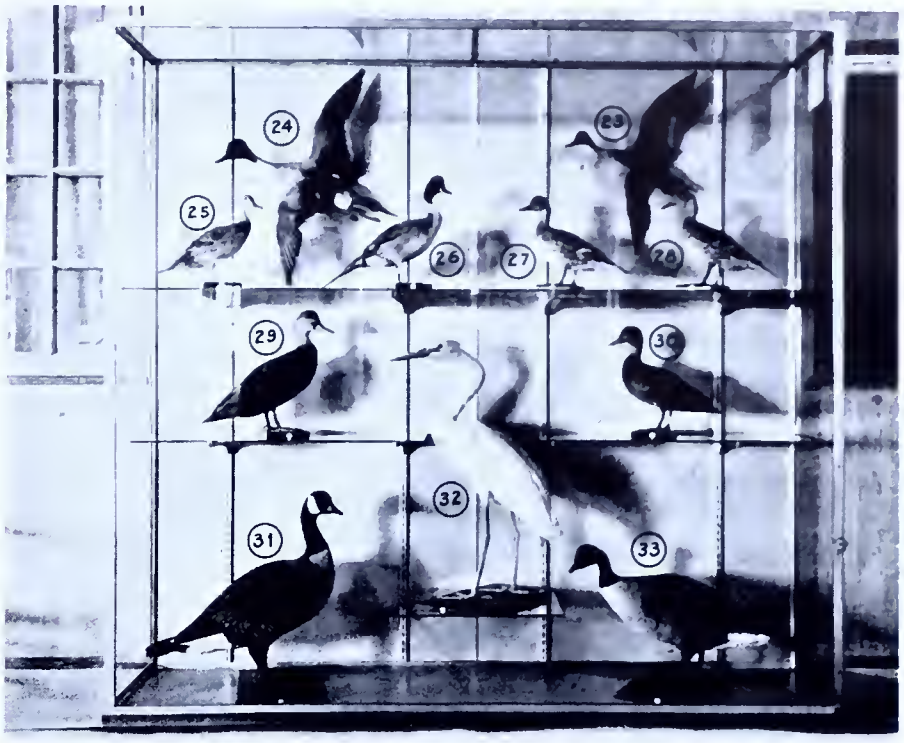


EXHIBIT CASE NUMBER 2

Specimen Number	Common Name	Sex	Season Plumage
23	Pintail Duck	Female	Spring
24	Pintail Duck	Male	Spring
25	Pintail Duck	Female	Fall
26	Pintail Duck	Male	Spring
27	Pintail Duck	Female	Fall
28	Pintail Duck	Female	Spring
29	Black Duck	Male	Fall
30	Black Duck	Female	Fall
31	Canada Goose	Male	Spring
32	Great White Heron	Female	Spring
33	Canada Goose	Female	Spring

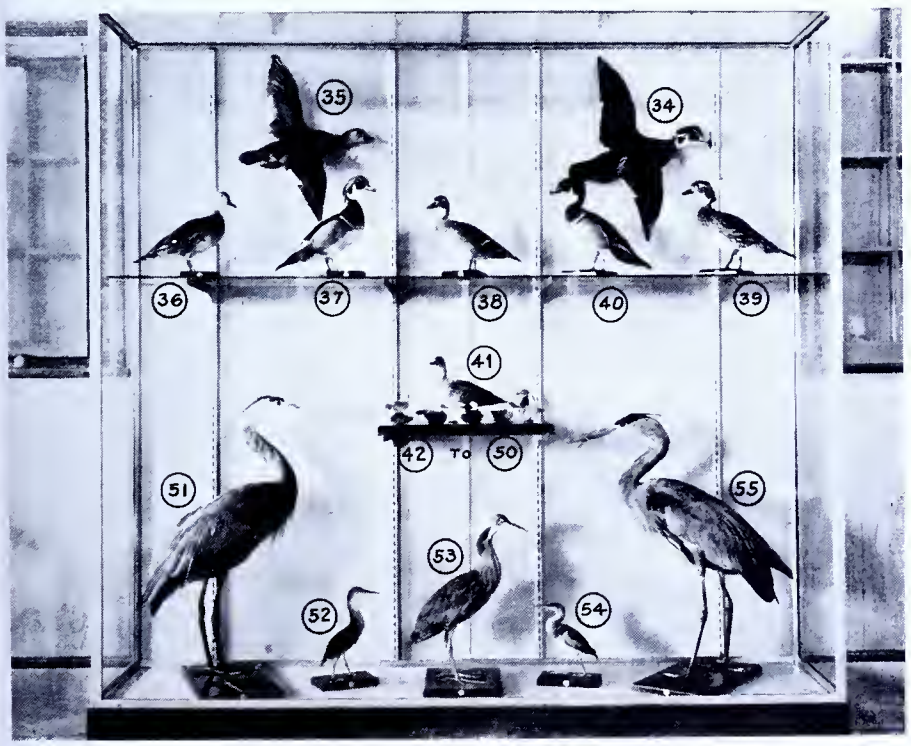


EXHIBIT CASE NUMBER 3

Specimen Number	Common Name	Sex	Season Plumage
34	Wood Duck	Male	Spring
35	Wood Duck	Female	Spring
36	Wood Duck	Female	Fall
37	Wood Duck	Male	Fall
38	Wood Duck	Female	Fall
39	Wood Duck	Female	Fall
40	Wood Duck	Male	Fall
41	Blue-winged Teal	Female	Summer
42-50	Blue-winged Teal	Ducklings	Summer
51	Great Blue Heron	Male	Spring
52	Least Bittern	Male	Spring
53	American Bittern	Male	Spring
54	Least Bittern	Male	Spring
55	Great Blue Heron	Male	Spring

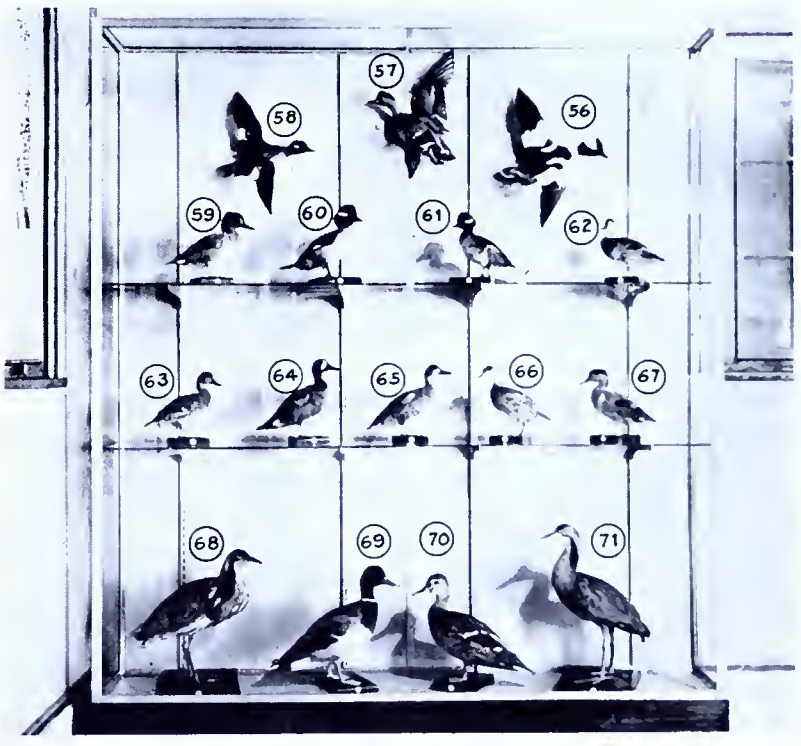


EXHIBIT CASE NUMBER 4

Specimen Number	Common Name	Sex	Season Plumage
56	Buffle-head	Male	Spring
57	Green-winged Teal	Male	Spring
58	Buffle-head	Female	Spring
59	Green-winged Teal	Male	Spring
60	Buffle-head	Female	Spring
61	Buffle-head	Female	Spring
62	Green-winged Teal	Female	Spring
63	Green-winged Teal	Female	Spring
64	Blue-winged Teal	Male	Spring
65	Blue-winged Teal	Female	Fall
66	Blue-winged Teal	Female	Spring
67	Green-winged Teal	Male	Spring
68	American Bittern	Male	Spring
69	Mallard Duck	Male	Fall
70	Mallard Duck	Female	Fall
71	American Bittern	Male	Spring

Television Shots from Pennsylvania's Game Season



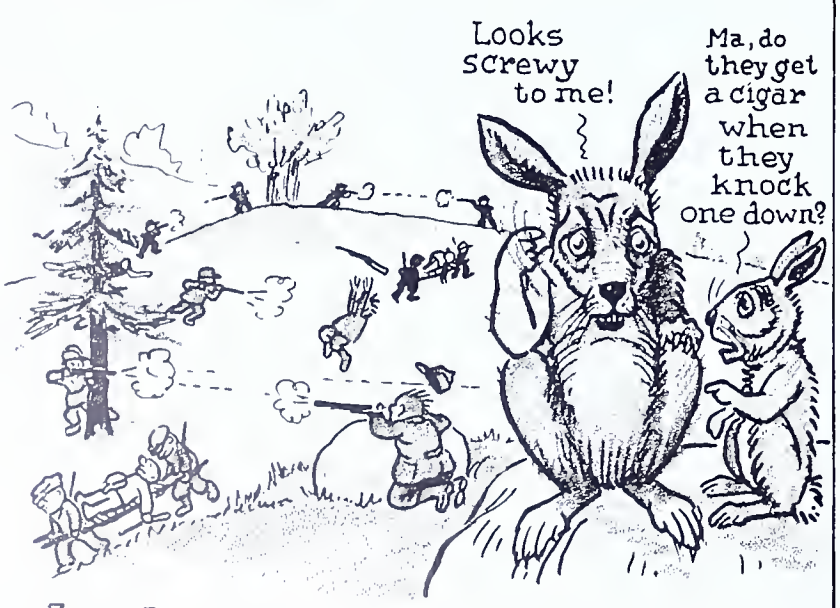
Jed Wisenhoffer, Pike County farmer plants an iron deer to draw gunners' fire, thereby saving his family and stock from assassination.



Dave Crockett, Tunkhannock bear hunter thinks you can get anything you wish if you wish hard enough. This season he overwished!



Farm-game plan works better than expected. Mars Penna. farmer not only invites gunners to hunt on his land but to join him at dinner!



John Bunny & son of Colonial Village, Wayne trying to figure what all the shooting is about

Hy Gage



Imagine his embarrassment! Hank Todd trapped a beaver which proved to be a U.S. Government employee on a nearby dam project!

PENNSYLVANIA GAME NEWS



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FEBRUARY 1939 TEN CENTS

PENNSYLVANIA GAME NEWS

Published monthly at Front and Reno Sts., New Cumberland, Pa., for Pennsylvania Game Commission, Harrisburg, Pa.
Executive and Editorial Offices, Commonwealth of Pennsylvania, Pennsylvania Game Commission, Harrisburg, Pa.

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Photo courtesy Stearne, Wilkes-Barre

Hon. Arthur H. James
Governor of Pennsylvania

To the Sportsmen of Pennsylvania

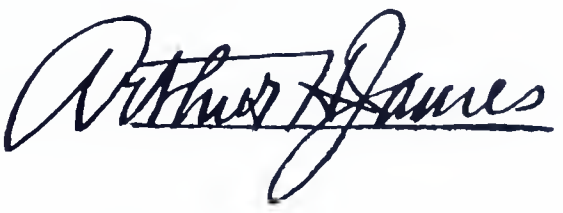
I appreciate greatly this opportunity to reiterate my views on the program you have so ardently supported and zealously guarded for so many years.

No one likes to hunt and fish any more than I do, therefore I shall certainly see to it that your interests and my interests in these two sports are thoroughly safeguarded.

I have always contended that there is no room on the voting register for game and fish, and that the administration thereof must therefore be strictly non-political.

Likewise, I am heartily in favor and shall exert my every effort to preserve the Game and Fish Funds. They are voluntary contributions made by you and by me to support the cause of wildlife conservation, and should therefore not be considered a tax in any sense of the word.

Pennsylvania today is the leader in game and fish conservation. It acquired that enviable reputation largely because of your efforts. Therefore, I appeal for your loyal support so that working together we may continue to have the best hunting and fishing in the Union.





• THE PROPHET • • •

GAME COMMISSION'S WORK COMPLETELY REVAMPED

Decentralized Plan Will Assure Greater Operating Efficiency and Economy

By NICHOLAS BIDDLE, President

A complete reorganization of the Pennsylvania Game Commission's field and office staff, and a statement of policy adopted for its future guidance, was publicly announced at the Commission's recent meeting. It is believed to be one of the most important steps the Commission has taken since its organization forty-two years ago.

This action, following an intensive study and analysis of the department's activities by a Committee consisting of Hon. Ross L. Leffler, Chairman, Hon. R. Lamberton, and Hon. John H. Price, appointed in September 1937, was taken to eliminate needless overlapping of administrative functions and to insure greater operating efficiency and economy.

The preliminary plan had been presented to and discussed with the officers and directors of the Pennsylvania Federation of Sportsmen's Clubs, the officials of the Pennsylvania Division of the Izaak Walton League and others interested last May. It was then submitted to the Executive Board last July and later received the final stamp of approval, to become effective January 1, 1939. The plan will be put into operation as rapidly as possible.

So that the sportsmen of the State may be fully familiar with the reasons for the reorganization, and the methods under which the department will operate under the new set-up, a complete account of the plan, together with a chart, is given below.

Why Changes Were Needed

During the past ten to fifteen years the functions of the Game Commission have changed materially. In the early days, the main function of the Commission was the protection of native game. This involved law enforcement, establishment of seasons and bag limits, proposed game legislation, development of game refuges, etc. In more recent years, restoration has become as great a problem as protection. Improved highways have opened up game lands hitherto almost inaccessible; new species of game have been introduced; the size and type of game refuges have changed; food and cover development has become a major problem. In addition, the land holdings of the Commission have grown enormously, making the problem of land management and maintenance a major one.

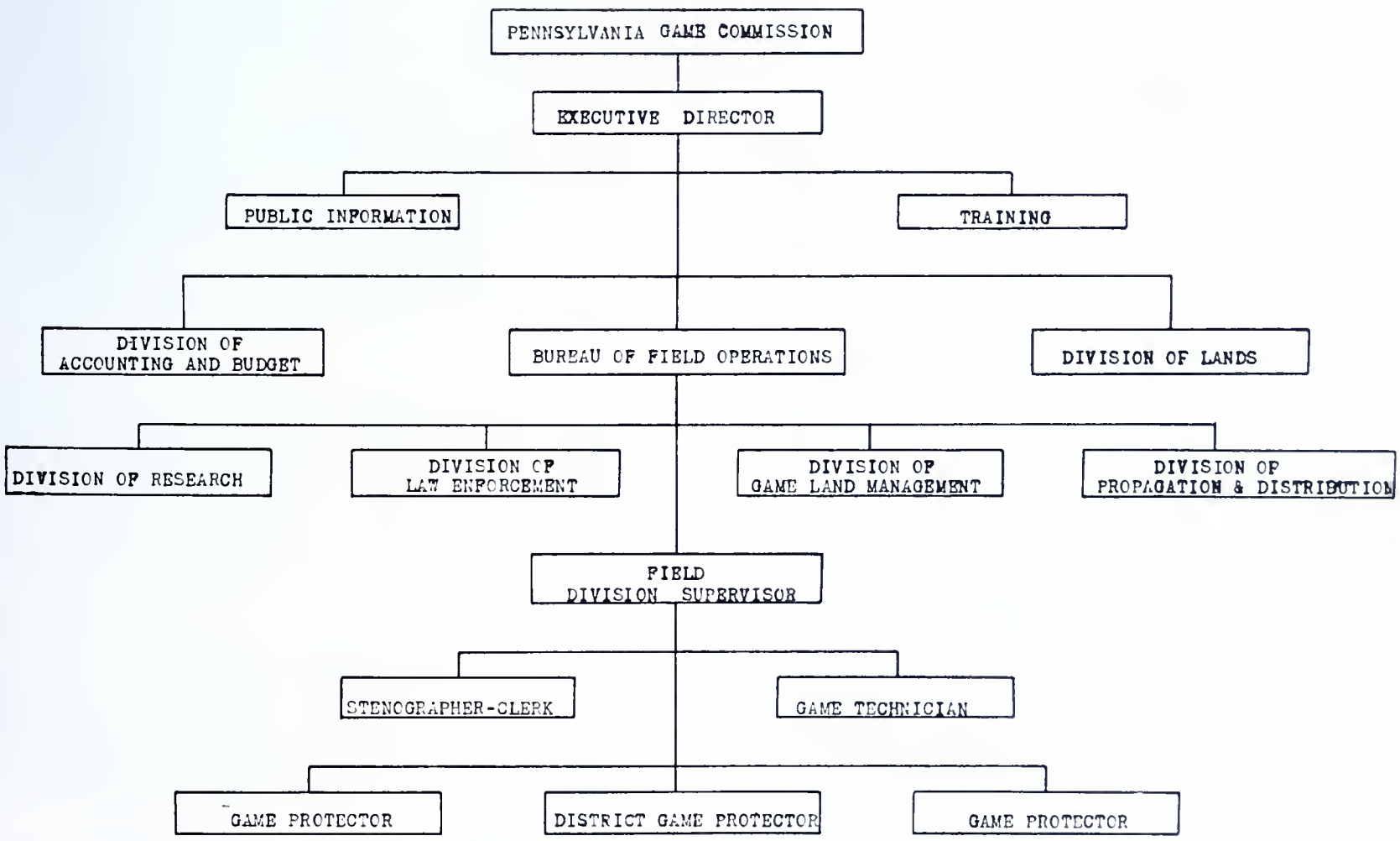
As the functions of the Commission have changed from purely protection to the dual functions of protection and restoration, the organization has changed materially. These changes have been made as the need arose and have not always been in conformance with sound organization principles. For the purpose of reviewing the organization and functions of the various units, with a view toward correcting any maladjustments, the Organization Analysis Committee was appointed.

The new plan is designed to increase the effectiveness of the entire Game Commission, and all changes therein will noticeably strengthen the organization set-up.

The office functions of the Commission, under the new plan, are made to provide service to the field forces and to act as a coordinating body. It is recognized that the major activities of the Commission are, and always will be, in the field; and all changes are made in conformance with this principle.

Impartial Analysis Made

A realignment was found necessary, as one of the foremost criticisms of the sportsmen today is that too much emphasis has been placed on bureau activities, while the field work was not coordinated and managed efficiently.



For some time there has been no major change in the functional set-up of the Commission, and it was felt that the time had come to reorganize and realign the functions in accordance with sound business principles. The expenditure of well over a million dollars a year, with which the Commission is entrusted, requires sound administration, in order that it may be conducted in an efficient and economical manner.

In making the analysis of the organization, the proposal was approached in a business-like manner and the future program and functions were planned in accordance with good management practices.

The result of the analysis indicated that there was no lack of interest on the part of the Staff of the Commission, and that the spirit of cooperation with the Organization Analysis Committee was splendid.

No criticism was directed toward any individuals or groups, for the fault laid with the system rather than with the personnel. The old organization permitted the over-lapping of many functions and caused considerable friction and confusion in carrying on the work. This will now be eliminated. To this end, a new organization chart (see previous page) has been developed and the duties of the several positions defined.

Functions Outlined

The following brief descriptions indicate the functions of the various units of the Commission as they will be carried out under the new set-up, as indicated on the organization chart.

1. Executive Director

The Executive Director is directly responsible to the Game Commission for carrying out the policies as laid down by the Commission. He has complete control of all staff and field forces. He has direct charge of the service functions of the Commission through the several Division Chiefs, and controls the activities of the field forces through the Assistant Executive Director.

2. Division of Accounting and Budget

This Division will function in the new set-up almost exactly as in the past. The Chief of the Division will serve as budget officer and comptroller for the Commission, and is immediately subject to the orders of the Executive Director.

3. Division of Lands

This Division has been established in the new plan to handle the technical and legal aspects of land acquisition. It will take no part in land management activities except as a service group. The Chief of the Division is directly responsible to the Executive Director. (This is part of the old Bureau of Refuges and Lands.)

4. Public Information

The functions of this unit will not change materially under the new plan and it will continue to publish the PENNSYLVANIA GAME NEWS, make press releases, radio broadcasts, magazine articles, etc. The head of this unit is directly responsible to the Executive Director.

5. Training

Under the new plan this unit reports directly to the Executive Director. The Training School will serve the entire Commission and the courses given will be considerably broadened. The head of this unit will also act as Superintendent of the Training School, spending as much of his time at the school as is necessary. (Previously under the direction of the Bureau of Protection.)

6. Assistant Executive Director
(Bureau of Field Operations)

The Assistant Executive Director is responsible to the Executive Director for coordinating the activities of the field forces, as Chief of the Bureau of Field Operations. All orders issued to the field forces must pass through him. The actual work done in the field is conducted through the several Field Division Supervisors, each of whom is directly responsible to the Assistant Executive Director for all activities in his respective Division. Supervisors will, as rapidly as possible, be furnished with capable assistants so that they may be thoroughly informed on all phases of field management and assist competently in coordinating field work.

7. Staff Units Under Assistant Executive Director

Complete supervision of all field activities has been made the responsibility of the Assistant Executive Director under the new plan. In directing and coordinating the field activities, provisions have been made for members of the staff to aid the Assistant Executive Director:

(a) Division of Research

The Division of Research will give the Assistant Executive Director adequate help and advice along research lines. Such research work as is conducted in the field will be done under the direction of the Assistant Executive Director, and through the Field Division Supervisors. The Chief of the Division has no authority over the field forces but can be used as a coordinating officer by the Assistant Executive Director. He, with his assistants, will very probably spend the greater part of their time in the field, working with the field forces in order to carry research problems to a satisfactory conclusion.

(b) Division of Law Enforcement

The Division of Law Enforcement will furnish the Assistant Executive Director competent advice on law enforcement problems. It is the duty of the Chief of this Division to coordinate law enforcement work in the field, through the Field Division Supervisors and the Assistant Executive Director. He will also have no direct authority over the field forces, but in all probability he and his assistants will spend much of their time in the field, instructing and advising the field forces on law enforcement work. (This was formerly handled direct by the Bureau of Protection.)

(c) Division of Game Land Management

The Chief of the Division of Game Land Management will act in an advisory capacity to the Assistant Executive Director and Field Division Supervisors. It will be his function to supply a specialized knowledge to the field forces on Game Land Management. It is important that the head of this Division has sufficient help to advise the field forces adequately, due to the fact that the problems of the Game Land Management are increasing in magnitude from year to year. He has no direct authority over any of the field forces. (This was formerly handled direct as part of the Bureau of Refuges and Lands.)

(d) Propagation and Distribution

The Chief of the Division of Propagation and Distribution is to act as an advisor to the Assistant Executive Director on problems of purchase and distribution of game, and it is his function to work closely with the Chief of the Division of Game Land Management, and with the Field Division Supervisors in preparing estimates of restocking requirements. He has direct authority over the game farms and wild turkey propagating areas, and is responsible for their management to the Assistant Executive Director. He will also cooperate with the Chief of the Division of Research in carrying out many of the research activities on the game farms. His authority does not extend to the field forces. (Part of this work was formerly tied in with research.)

8. Field Division Supervisors

The Field Division Supervisors will be in complete charge of all field activities in their respective Divisions, and shall be responsible for the work of their forces to the Assistant Executive Director. It is their problem to coordinate the various phases of Game Management, so that a balanced program will be maintained in their divisions. The Staff working under the Assistant Executive Director will be at their service to offer specialized knowledge and assistance on any and all problems.

In order that Supervisors may devote more of their time to executive duties, an office will be set up in each Division, with a stenographer-clerk to handle the routine functions of the office and to assist in maintaining desirable contacts with the sportsmen. Each Supervisor will also be furnished, as rapidly as possible, with a trained biologist or forester who will act as game technician, and who will assist him and advise him on technical aspects of game management, and assist him in coordinating the field work.

Field Titles Changed

By having the entire program in each Division directed solely by the Field Division Supervisor much unnecessary duplication may be avoided and a balanced program carried on. All field officers, regardless of the duties to which they may be assigned, will in the future report direct to their respective Field Division Supervisors.

Titles of field officers have been standardized to avoid confusion, and in the future all new employees in the Field Service will start at the beginning grade and advance by successive steps through three separate grades regardless of assignment.

Each District Game Protector will be in complete charge in the district to which assigned, and will be the chief law enforcement officer within that district. He will coordinate the activities within the district and maintain friendly and mutually satisfactory relations with the public.

The position heretofore called Game Refuge Keeper has been abolished and the title changed to Game Protector (Land Management). This officer will actively manage the game lands and refuges within the management group assigned him. He will occasionally act as a law enforcement officer when directed to do so by the Field Division Supervisor in charge.

The position heretofore known as Traveling Game Protector has been abolished and the title changed to Game Protector (Special Assignment). Such employees will function in land management, law enforcement, etc., and will be well versed in all the phases of the Commission's work so that they may function in any district of the Division which requires assistance or special attention. Assignments will be made by the Field Division Supervisor, to whom such officers report.

The Plan Summarized

From the foregoing it will be noted that definite responsibilities throughout are more clearly fixed under the new plan, that certain former office functions have been transferred to the field with a comparable reduction in the personnel required at the Harrisburg office.

It will be observed that the reorganization plan does four major things:

1. It readjusts and simplifies the administrative functions at the Harrisburg office.

2. It coordinates all the field functions under the direct supervision of the Assistant Executive Director (in charge of the new Bureau of Field Operations), including the several divisions at Harrisburg whose work for the most part extends to or is performed in the field. Those in charge of the several sub-divisions of this bureau will serve as staff officers, with the Assistant Executive Director as chief coordinator.

3. It establishes seven divisional offices in the field, and the Field Division Supervisors will report direct to the Assistant Executive Director. The Supervisor and his staff in each of the seven divisions will have complete charge of many functions heretofore handled direct

from the Harrisburg office. (This will greatly increase the efficiency of all the field work, reduce the cost of operations when the plan becomes fully operative, and enable the Commission to maintain closer contact with the sportsmen and their wishes.)

4. Field officers in the future will have but one payroll title, namely, Game Protector, and the rate of compensation will remain the same regardless of the duties which they may be assigned, instead of three separate payroll titles. Annual increments in compensation are provided for meritorious work for all members of the Enrolled Field Service as in the past.

It will be noted also that under the new plan instead of having two major bureaus and four major divisions in the Harrisburg office, all giving orders to the field, the Executive Office will have two small service units and two divisions, and that the Bureau of Field Operations will be the only major bureau in the Harrisburg office, which will coordinate and direct all field functions. The men in charge of various sub-divisions of this bureau in the Harrisburg office will serve as staff officers, and give no instructions direct to the field.

This new plan simplifies the entire administrative set-up, eliminates overlapping administrative functions, and decentralizes and better coordinates the Commission's administrative machinery throughout. When it becomes fully operative, the Commission is convinced the total cost will be no greater, in all probability less, than would have been necessary to continue functioning under the old system.

Another important step has been taken in the Commission's long-term program, and it is hoped all sportsmen's organizations and individuals will cooperate to help get the new plan functioning smoothly just as rapidly as possible.

Guiding Policy Adopted

As a preliminary step to this reorganization plan, the Commission on April 6, 1938, adopted the following statement of policy:

The Commission feels it is desirable to reduce to writing certain policies by which the functions of the Game Commission are to be conducted. While some of these policies represent a departure from present practices, most of them have long been in effect and are already well-known. Adherence to these policies will contribute largely to a constant improvement in the handling of the business which is important to this Commonwealth and will aid us in progressing to the highest level of usefulness. It shall be the policy:

1. **To understand and accept complete responsibility for the work or functions which have been assigned to the various Division heads and other employees.**

   It is necessary that an analysis of every job be made to determine clearly their respective duties. It is our responsibility to those who report to the Executive Director to make certain that they know exactly what is expected of them, both as to their specific job duties and a broader Commission responsibility.

2. **To understand the basis upon which success or failure is being judged.**

   Commission activities for which we are responsible have certain technical and managerial problems which are peculiar to their particular functions.

   We must understand just what special and specific results are expected from us. We must also see that each employee knows the specific indices being used to judge his work and the relative importance that is being placed on the various phases of his activities. Clear definitions and an understanding of how success or failure is judged enables employees to direct their efforts specifically toward the objectives expected of them.

3. **To maintain an organization best designed to meet the changing needs of game conservation in all of its ramifications.**

   At regular intervals we should study the structure, size, and quality of our organization. We should have definite plans for the upgrading of present personnel and of securing new junior personnel. In building any organization it is important that there be one, and only one, person directly responsible for each activity; that there be no divided, joint or dual responsibility; that there be but one line of authority from each work group to the top of the organization; that the titles uniformly represent the same amounts of responsibility and authority, and truly represent the duties and working status of those holding them; and that necessary coordination and control plans be established to insure harmony and efficiency.

4. **To delegate authority commensurate with responsibility.**

   It is necessary for us to make certain that each employee has the proper amount of authority with which to expedite the work at hand and maintain harmonious relations within the organization. Everyone concerned must understand the relationship of the various line and staff organizations in order that their services may be utilized to the greatest advantage by the Commission.

5. **To analyze and plan all work.**

   Some time during the year, especially at the beginning of the fiscal year, we are expected to make a written forecast, as far into the future as seems practical, relative to the results we hope to achieve and the policies we expect to follow. This should be presented by the Executive Director to the Commission at the meeting prior to the July meeting. Plans should cover such important factors as improvement in our equipment, our methods of handling work in the field, our public relations policy, and the efficient use of our own time. We should have a definite course which our own group and our immediate subordinates know that we are following.

6. **To select employees to meet the present and future requirements.**

   Employees must be selected, promoted, and transferred on the basis of a thorough analysis of the requirements and a careful consideration of the employees' ability. We should give special attention to the age, physical condition, intelligence, education, aptitude, interests, experience, and personality of each employee as related to the results we expect from him. Unless the need for immediate sufficiency demands otherwise, the caliber of the employee for future usefulness should outweigh immediate experience and training for the job under consideration.

7. **To supervise employees so as to inspire and maintain their wholehearted interest in their work.**

   In a large measure the success of any enterprise depends upon the morale of the group engaged in it. In order to build this spirit within our organization, it is essential that we carry on our dealings with all of our associates and with the sportsmen in full accord with the spirit and provisions of the Commission's policies as set forth in this statement.

8. **To give adequate orders, instructions, and directions.**

   We must realize that the business of the Commission can only be successfully done if there is clarity and unity of understanding on the part of all employees regarding what to do and how to do it. No employee can be held responsible for work regarding which he has not been properly informed. It is necessary that those employees who direct the work of others receive full training in the principles of good supervision and management. Training for the position is most essential and is a part of good supervision, no matter what line of endeavor the man may be following.

9. **To set standards of performance.**

   In the management of any business, and this applies to game management, a continuous effort should be made to establish and refine standards of performance. Without such standards an organization works in the dark, not knowing when its work is satisfactorily done. In establishing standards of performance, each person affected should assist in the development of his own standards. In this way the morale of the group is strengthened and each employee is more anxious to perform his work satisfactorily.

10. **To set standards of compensation.**

    We must give the same careful consideration to standards of compensation for our employees as we do for standards of performance. Wage rates or salary schedules should be classified in order that responsibility, skill, and ability is rewarded in a manner throughout the entire Commission, regardless of the occupation in which employees may be engaged. It does not make for good management to have an employee seeking promotion through another line of endeavor rather than attempting to make himself more proficient in the line of work being pursued.

11. **To seek constantly to effect improvements.**

    It is our duty to establish the principle with all of our employees that they seek constantly to effect improvements in our methods

(Continued on page 32)



Removal of a portion of the timber stand stimulates sprout growth essential as browse for deer, and it releases plants which provide game food in the form of berries and seeds.

By JAMES N. MORTON
and
JOHN B. SEDAM

Cutting Operations to Improve

ON much forest land in Pennsylvania the canopy of trees has closed, thereby making environmental manipulations necessary if the areas involved are to maintain the wildlife populations which they can and should support.

Too well accepted to be disputed is the fact that a dense growth of mature trees, or a stand of growing trees, in which the crown canopy has closed over a considerable area, does not afford conditions favoring an abundance of wildlife. Large timber standing thickly together sheds its limbs for some distance above the ground, leaving no low branches upon which browsing animals may feed. The same shading process which eliminates low limbs also precludes the growth of any appreciable amount of understory.

Consequently, a stand of large, evenaged, and in some instances unevenaged trees, often has an open floor, carpeted only with fallen leaves or pine needles, and offering scarcely any food or cover. Such conditions reduce ground-dwelling wildlife to a minimum, and provide optimum habitat only for animals which require the environment of leafy canopies.

The forest district in Pennsylvania, which at this time presents the greatest problem as to wildlife habitat, lies in the central and northern parts of the State and in both the Allegheny and Appalachian mountain systems. Here is range, that is, or has been, favorable for the white-tailed deer, snowshoe hare, and ruffed grouse, as well as the black bear, cottontail rabbit, raccoon, and in certain sections, the wild turkey.

These lands are owned and controlled by both private individuals and public agencies, which include the U. S. Forest Service, Pennsylvania Department of Forests and Waters, and the Pennsylvania Game Commission.

On the lands controlled by the Commission, work was undertaken to provide better habitat for wildlife. That part of the work having reference to cuttings is here considered. Planting is mentioned only as it may refer to a few trials in cut-over plots.

During the spring of 1936 the Commission authorized an extended program of game food and cover development on the lands under its direct control. These lands, known as State Game Lands, total 573,458 acres, and are distributed in 53 of the State's 67 counties.

An outline for development was immediately prepared and put into effect as rapidly as possible. It seemed important to give careful and urgent consideration to cutting operations to make the lands of most value to wildlife, and at the same time to give due recognition to timber production. Much of the work has been experimental. Programs and procedures had to be changed from time to time, but because of the urgency of the problem the work was conducted on a fairly large scale. Deer were starving and snowshoe hares and grouse had lost much of their previous range.

The cuttings undertaken were principally of four kinds, namely, release cuttings, slashings, thinnings, and felling timber for sale.

Release Cuttings

Release cuttings were carried on about grapevines, wild apple, hawthorns, black berries, mountain ash, dogwood, beech, huckleberries, sumacs, and many other game food producing trees, shrubs, and vines. These cuttings were designed to remove all competitive growth and to permit sunlight to enter and stimulate the game food plants and increase their fruiting capacity.

The size of the release plots varied from a fraction of an acre to several acres, depending upon the needs of game and on local conditions. In a number of instances several acres of blackberries were



Reprinted from *The Journal of Wildlife Management*, Vol. 2, No. 4, October, 1938

Ground-dwelling wildlife is reduced to a minimum in forest areas where there is a lack of undergrowth.

Wildlife Environment on Forest Areas

released in good grouse and black bear territories. Release plots in most instances, however, were confined to areas of not more than one-fourth to one-half acre. Plots were scattered, about a quarter of a mile apart, wherever there was suitable material for releasing. So far as possible, the plots were confined to the so-called waste land types, such as shallow soils, ledges of rock, and marshy or swampy areas.

Every effort was made by the local manager of the land to find all openings resulting from past timbering operations. In many of these, including old roads, tram grades, mill sets, camp sites, and abandoned clearings, being reclaimed by tree growth, steps were taken to preserve open areas and release game food producing trees, shrubs, and vines. This was accomplished by felling and piling the scattered trees that were taking possession of the openings.

In release cutting, special attention was given to apple trees, one of the best sources of game food. A great many are found growing wild around abandoned lumber camps, and along old tram grades and wagon roads. Thousands were released from competitive growth and pruned.

The work of the first year resulted in a greatly increased crop of fruit on practically all trees which were treated. Many that had not borne fruit for years, because of suppression and lack of pruning, produced a fairly good crop. Deer and rabbits browsed heavily on the pruned branches which were piled for their benefit.

When grapevine releasing was started, trees which had vines high up in the branches were felled with the tops of two or more together, to get the vines nearer the ground, make the fruit more available, and at the same time open up the area to provide the vines with more sunlight. It was found that deer, especially where abundant, began browsing on the tender foliage of the vines and in some cases practically destroyed them. To overcome this difficulty, where greatest, several trees in close proximity to those on which the vines grew were cut partially through about 4 feet above ground. These trees were felled across each other and remained attached to the stumps. The trees on which the vines were growing were then cut entirely through about one foot above ground and felled onto the partially cut trees which provided a natural support over which the vines matted to form a dense cover valuable to wildlife and were at the same time beyond the reach of the deer.

Slashing in Plots

In areas where cover and food conditions were unsatisfactory and where the timber was not large enough to market, a great many strips or plots were cut to stimulate sprouts, briars, shrubs, and other ground growth, in sections where there was the least amount of potentially valuable timber. Many different methods of handling this work were tried. On some areas rectangular plots of one-half acre were cut and all brush thrown in large low piles and burned to promote the growth of briars and to furnish dusting places. On other plots part of the brush was piled over stumps and logs as escape cover for wildlife and the remainder burned. In some cases, strips were cut 70 to 90 feet wide and the brush "windrowed" down the center of the strip by felling trees with their tops to the center. The width of strips was twice the height of trees along the edges, sufficient to allow sunlight to reach all parts of the plot for a considerable period each day.

In other slashings the trees were felled with tops all to the center of a more or less circular plot. Where deer were hard pressed for food it was found necessary to fell for browse some trees scattered

over the plots. Before this practice was adopted the deer destroyed potential grouse food by consuming all reproduction as fast as it appeared, often leaving an opening bare. The brush remaining from scattered tops protected some vegetation until it got started, thus increasing the ground cover.

On some plots the planting of Japanese rose, Japanese barberry, and buckthorn was carried on to a limited extent. It was thought that conditions for grouse would be improved in this way. It is too early yet to determine whether or not this is good practice.

Much of the work was done by CCC, NYA, and WPA labor which made possible a number of operations which could not otherwise have been attempted. We are convinced, however, that the benefits of slashings to wildlife justify the expenditures.

We believe that the most practical method is to cut in zigzag strips 50 to 90 feet wide, and where possible scallop the sides to provide more edge. The length of slashings can be anywhere from 300 to 600 feet, depending upon local conditions. The trees should be felled in windrows or left scattered over the plot; a few trees may be felled back into the adjoining timber to provide more cover and additional sunlight for shrub production at the edges of the cut strip.

A record of each slashing plot was kept on a form on which was noted the location of the plot, size, slope, kind of growth prior to cutting, in a general way the method used in carrying on the work, man days required for the job, and dated observations on wildlife utilizing the plots.

A total of about 2,500 acres was cut in 700 release and slash areas. Millions of good game food producing plants were given a better opportunity to fruit, thereby contributing in a large measure to available food supplies and providing other essential factors for good wildlife range.

It is proposed to maintain the more desirable plots permanently for wildlife by repeating cuttings at intervals of a few years, as needed, to keep them in the most satisfactory condition.

Stump-Height Experiment

In an effort to determine the height of cuts producing the most vigorous sprout growth, experiments were made in four different counties. Trees on these areas consisted of red maple, American beech, yellow birch, and oaks under 6″ d.b.h. These areas were each divided into four quarter-acre sections and trees felled at the following heights: Section 1, 6″ high; 2, 12″ high; 3, 18″ high; and 4, 24″ high.

Due to variations in the work of individuals making the cuts, we were unable to group enough trees cut the required height to make a satisfactory statistical study and graph the results.

Readings taken on several stumps in each section, after one growing year, however, provide the following data: (1) On all plots the greatest average growth was from stumps cut 12″ from the ground, and (2) trees cut 18″ to 24″ high yielded a higher percentage of growth from the stump cambium. Whether this growth will continue to live as the stump dies is problematical.

It is apparent from the observations made that trees felled by cutting the stumps 6″ to 12″ high will yield more vigorous sprout growth than those cut 18″ to 24″ high.

Thinnings

It is well known that thinnings in forest stands beyond the sapling stage are among the most beneficial cultural operations both for wildlife and for the trees. Early plantation thinnings in England were conducted primarily to improve conditions for game. Trees in stands which are thinned produce larger seed crops, hence more food for wildlife. The openings made by removal of part of the stand admit sunlight which stimulates the growth of sprouts, shrubs, and other vegetation valuable as food and cover for wildlife.

Hundreds of acres of forest thinnings were made on State Game Lands during the past two years. In many cases the thinning was more thorough than would ordinarily be done if timber production alone were considered. Radical thinning also lengthens the period after which it is necessary to repeat the treatment. Cultural operations to be of most value must be continuous. Care was exercised to save valuable fruit- or nut-producing species present in the stands. Where mast-producing species, as oak and beech, were found, thinnings as severe as 50% to 75% were made to give these trees an opportunity to devolep a more open type of crown, and increase their fruiting capacity. Ground growth on the liberally thinned stands is greatly increased.

Where large areas were greatly thinned, enough growth was made so that a good percentage of sprouts grew beyond the reach of deer, thus establishing an uneven-aged stand, beneficial to forest wildlife. The ensuing heavy ground growth of herbs and shrubs provided conditions essential for the survival of small game. At least 50% crown removal was necessary to insure the growth of an adequate understory.

Cutting of plots in solid yellow birch stands was followed by no sprout growth whatever, but the surrounding birch trees readily reseeded the areas.

Sugar maple, as a rule, is not a vigorous sprouter. Red maple is probably the best in that respect of all the trees cut. However deer preference kept its growth to a minimum height.

Aspen in most instances restocked thinned areas by suckering from the roots.

All sprout growth and seedlings were more vigorous when protected by felled tree tops.

Heavy browsing of terminals reduced height growth and stimulated growth from side buds, thus resulting in a greater number of branches for browse material.

The field notes submitted by many of the local land managers were of interest and value. These, along with personal observations and studies, verified information useful to the technicians responsible for manipulating game habitats.

In remote sections where slashings or thinnings were conducted, a great increase in the number of snowshoe hares was reported. Evidence such as number of rabbits seen, peeling of sprout growth, droppings, and tracks on treated areas substantiated these reports. Without doubt the fresh cuttings attracted many of these rabbits from surrounding range, but the occurrence emphasizes the need for the renewal of ground cover in second growth stands that have shaded out the understory.

Cottontail rabbits have been observed feeding on treated plots in remote forest areas. In one instance twenty-four rabbits liberated on a recently managed area, which prior to management was practically void of game, bred and restocked the area to such an extent that local hunters were enabled to take a fair kill the following season.

Periodic reports were received of broods of ruffed grouse exercising, dusting and feeding on areas where forest cuttings had been conducted. Such observations indicated the need of forest openings in optimum grouse environment.

On radically thinned areas practically all men reported that released trees and shrubs yielded more and larger fruit than similar trees in adjoining untreated stands.

White-tailed deer utilized practically every treated area within the forest range, browsing heavily on sprout growth and on tree and shrub reproduction, and grazing the herbaceous growth. In many regions deer were literally kept alive from day to day by slashings. The statement in the report of one field manager, "Deer seem to know the sound of the axes, and follow cuttings as fast as they are made," may seem incredible, but its actuality serves emphatically to show the extent to which the ground growth had been depleted. Herds have been known to bed down on slashed areas and feed there for several days.

In many instances deer had followed through areas where apple trees had been released and pruned, browsing heavily on the discarded twigs. Rabbits remained in the vicinity of apple prunings, which provided food during the entire winter.

The use of the treated areas by forest game is ample proof of the value of the cuttings in managing wildlife habitat in a heavily wooded region.

Timber Sale Operations

On all areas where cutting was needed and where the timber was of marketable size, every effort was made to arrange for timber sales. During the past two years approximately 40 agreements have been made, calling for lumber, mine props, mine ties, cord wood, pulp wood, chemical wood, material for birch oil distillation, etc., on a total of approximately 8,700 acres. More than $8,000 was received from such sales since the program was authorized less than two years ago.

Agreements entered into with operators included certain definite restrictions, depending upon the area to be cut. In general, material was cut down to a specified diameter limit. This assisted in converting even-aged into uneven-aged stands, of great value for wildlife.

The purchasers agreed to leave all good game food producing species, such as beech, cherry, etc., as specified by the local manager of the land, and sufficient den trees to provide for squirrels and raccoons.

Cutting units were scattered as much as possible in areas from one acre in size up to one hundred acres. A few one and two acre units were cut by purchasers getting cord wood. Where the cutting was for pulp wood, chemical wood, and mine ties the tracts ranged from 25 to 50 acres. Much larger areas were required by purchasers in-



Scene along the Coudersport pike, Potter County

terested in timber of size which necessitated the setting up of a sawmill.

Timber sales are the most satisfactory method of handling the cutting problem. Operation in this way may be made to yield a profit as well as greatly to improve the area for wildlife.

Summary

In order to maintain satisfactory conditions for wildlife on reserved forest areas, it is imperative that cultural operations be carried out. Where the canopy is closed it is necessary to use the axe liberally, both to influence the composition and density of the forest and to favor different kinds of wildlife. It must also be kept in mind that the forest is never static but always changing, hence requires constant attention and follow-up treatments to keep it in condition to foster an abundance of wildlife.

Cuttings can be of different kinds depending upon the nature and size of growth. Where the material is large enough, the cuttings, for the sake of economy, should be for wood sales. The purchaser in each case must be required to enter into an agreement specifying how the work is to be done. Specifications should include among others a provision that game food trees and den trees must be left standing.

Thinning is one of the most valuable cultural operations because it benefits both wildlife and the trees. Good game food producing trees, shrubs, and vines, and some den trees must always be left on treated areas.

Where severe thinning is conducted there is an increased growth of vines, shrubs, and herbaceous ground cover, improving the habitat for all forest game species.

Release cuttings around such game food producing plants as apple, hawthorn, wild grape, dogwood, beech, etc., which provide a large part of the fall and winter food of many kinds of wildlife, are relatively simple and inexpensive. The amount of game food is greatly increased by these operations and the results obtained are ordinarily much more satisfactory than attempting to establish game food species by planting.

Slash plots are very desirable in large forest tracts where the tree growth is dense but is not of a size financially profitable to market. Zigzag strips 50 to 90 feet wide are probably the most satisfactory slashings for the benefit of forest game. Ensuing sprout growth and increased reproduction augment food and cover essential for wildlife.

All openings in forest areas, as along old roads and tram grades, and at abandoned camp sites and clearings, should be maintained by removing trees to release shrubs and vines and to insure the open areas so essential to wildlife environment.

If stumps are cut 6-12″ high, apparently more vigorous sprout growth for a longer time can be expected than when the trees are cut higher.

When plot slashings are conducted where deer are abundant, it is imperative that scattered tops be left on the ground to attract the animals and thus protect from browsing the reproduction that is of such great potential value as food and cover for other forms of forest wildlife.

On treated forest areas, the carrying capacity for such game as grouse, snowshoe hares, and deer is considerably increased by the improved food and cover conditions.

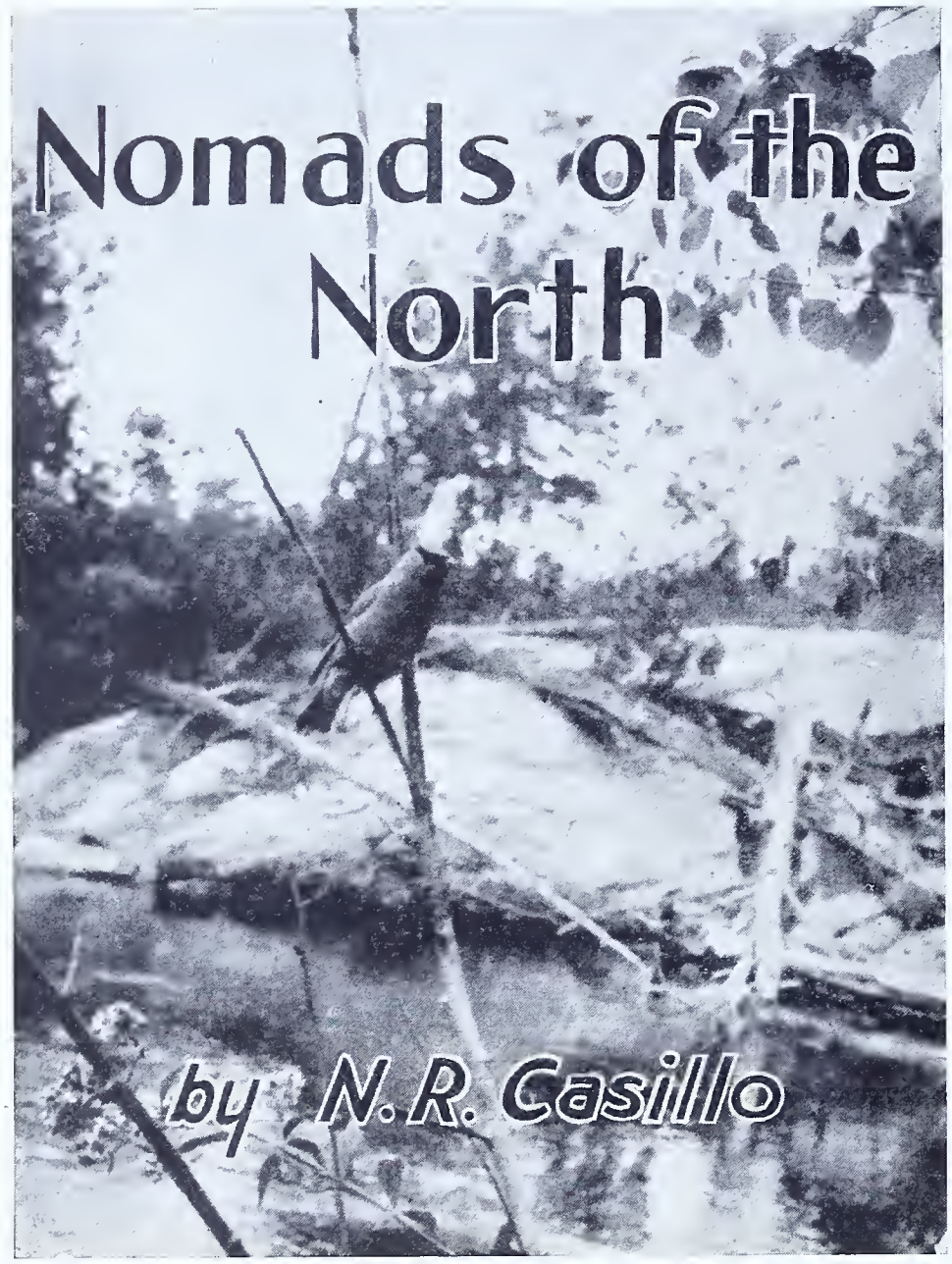


Photo by the Author

IT'S a comparatively simple matter to photograph specimens of various forms of wildlife with the amazing modern telephoto lenses with which most serious workers in this interesting field are equipped. Imagine, if you can, working some fifty or more feet from a timid specimen, depending of course on the focal length of the lens and the size of the subject.

It is common practice for the wildlife photographer to use a lens with a focal length of at least 135 mm. Obviously, such a lens will magnify the image nearly three times the size of that produced with the average lens, all other factors being equal.

However, do not deduce from the above that it's easy to use the specialized equipment. Indeed, one must be an expert technician to use a powerful telephoto lens with any degree of success. But, the problem of the photographer becomes one of photography rather than of stalking, and therein lies the convenience of the telephoto.

Telephoto equipment is prohibitively expensive for the average photographer. However, he can substitute patience and caution for the costly equipment, and more frequently obtain better results with the two human attributes used in conjunction with the average camera.

Late last spring while trouting on Big Salmon creek, located some four-miles west of Marienville in Forest County, we repeatedly encountered a flock of Cedar Waxwings. When one considers its distinctive habits, aristocratic bearing and gentle mien, this bird is one of the most attractive and interesting on the North American continent.

Toward late afternoon we arrived at a large pool, a beautiful spot, well hidden by a dence growth of hemlocks and rhododendron; here and there the deep green of the evergreens being relieved by the light, graceful fronds of mountain ashs.

At the pool's head a rollicking waterfall literally tumbled over itself in its eagerness to mingle its waters with those of the placid pool. A thin thread of foam reaching from the foot of the fall to the farthermost corners of the pool described eccentric figures on that surface of emerald green.

As we watched entranced, a flock of birds swept over the hemlocks, descended to the very edges of the pool and perched on anything that was convenient. They were the Waxwings that we had encountered throughout the day. One bunch of about twenty birds had alighted on one of the mountain ash trees and presented a rare sight. The balance of the flock was evenly scattered about the pool.

For a few moments they were utterly motionless, the only signs of life being evinced by their thin, lisping notes. Then one by one they dropped from their perches, fluttered close to the surface of the pool until nearly two-score of them hovered over the water picking up the numerous forms of insects that floated thereon. After having daintily partaken of a few morsels, the individual birds would fly back to the perches they had recently quit, repeating the manoeuvers again and again.

At last it dawned on me that I could possibly get a photograph or two, for the birds seemed absolutely devoid of fear. So with that idea in mind I unlimbered my camera, set the scale at four feet and stationed myself near the perch that was most frequented. With my eye glued to the viewfinder and my fingers on the shutter release, I waited.

Of course they didn't immediately return to the spot, for the alert birds had readily perceived the change in the terrain in the immediate vicinity of the perch. But, in about ten minutes one of the most daring flashed back to the limb, looked at me for an instant with his beady eyes and then darted off again. I never moved an eyelash. Indeed, I even forgot to snap the shutter; consoling my chagrin with the conviction that I couldn't have caught him anyway.

In the next moment two birds alighted on a nearby twig. But they were gone even as I snapped the shutter, the negative showing only some fuzzy background.

Twenty-minutes later the birds had become thoroughly accustomed to me and offered numerous individual shots. Singularly interesting was the observation that only one at a time perched on the dead limb where as many as a dozen had previously been alighting.

For the rest of the afternoon I completely abandoned the fishing to watch the queer antics of the interesting birds. It was a revelation to me to observe how utterly fearless they were of the water, for they often completely submerged their tails while manoeuvering for an elusive insect. The aerial convolutions which they performed while chasing a small gray moth which made its appearance shortly before dusk were positively acrobatic. While completely absorbed in pursuit a beautiful male came so close as to actually brush my hat rim with a wing tip.

The Cedar bird was a familiar and beloved form during my boyhood days in New England, wandering about in season and out, conforming to no fixed schedule, appearing at the most unexpected times and places. The only times that I have ever observed the birds follow any sort of a schedule was when a flock or two would annually descend on the cedar pastures so common in southeastern New Hampshire. Usually, during the latter part of February they would frequent the pastures to feed on the berries to be found there.

Once, in the vicinity of James Bay in Ontario I saw the birds go through the ceremonial passing of food that a number of observers have reported. In this case the flock of six birds (it may have been a family), perched on a small chokecherry. A few minutes after alighting one of them plucked a cherry, turned with it to the one adjacent who in turn took it and passed it on until it had made the rounds several times. What prompts the birds to go through the peculiar performance has never been determined. I like to think that it is the innate courtesy of the bird manifesting itself. In the case of the flock that I observed it could not have been hunger, for it was apparent that every bird was stuffed to the bill. Finally the cherry was discarded and the birds went on their way.

Another interesting observation is that the peculiar wax-like markings on the wings and frequently on the tail feathers of the birds have no relationship to sex or age. Of the birds that I have seen it could be safely reported that about a quarter of them lacked the markings.

However, with or without these distinguishing features the Waxwings are sufficiently distinctive with their elegantly groomed and tastefully colored plumage, aristocratic bearing, intelligent, brightly gleaming eyes and manners irreproachable as to set them aside as something out-of-the-ordinary in our native bird-life.

MR. OR MRS. DOODLE?

By C. M. PALMER, JR.

Assistant Secretary, The American Wildlife Institute

Reprinted courtesy *American Wildlife*

OR is it Mrs. Doodle? There lies a problem. Both male and female timberdoodle, better known, perhaps, as woodcock, or, in the language of the ornithologist, *philohela minor*, wear the same garb. Their plumage gives no inkling as to sex and there are no other signs to tell whether the hunter of autumn alder thickets has bagged the "master" or the "missus."

Hunters for ages have considered that the hens are the larger birds. Sporting literature has made this distinction for years and there has been "no question" in the minds of those particularly interested in woodcock as to the "persuasion" of the birds in the bag. The big ones have been the hens and the little fellers the cocks. But is this actually so?

One of the major studies of the cooperative research and demonstration project of the American Wildlife Institute* at the University of Maine deals with this grand little game bird. This study has been in operation about three years and is producing practical results.

The average weights of birds studied, after the sex had definitely been determined by examination, was found to be 216.4 grams for the females and 178.1 grams for the males. But the correlation of size to sex does not in all individual cases hold. The only really positive method of telling who is Mister and who is Missus "doodle bird" is, of course, by a careful post mortem examination.

However, a rather reliable method of segregating male from female birds alive has been developed incidentally. It has been found that there is a rather close correlation between sex and bill length. From data developed thus far in this study it seems safe to assume that woodcock whose bills are longer than 72 mm. are females and those whose bills are less than 64 mm. are males. Between these dimensions the story runs about as follows:

64-66 mm.—95% males

66-70 mm.—50% males and 50% females

70-72 mm.—95% females

Dr. C. M. Aldous, in charge of the Main Cooperative Research and Demonstration unit at the University of Maine at Orono, will welcome weights and measurements, carefully made, from other parts of the country.



Earthworms continue to be the piece-de-resistance most preferred by these interesting little game birds. For these the "doodle-bird" drives his long bill into the soft earth of boggy alder and other thickets with unerring accuracy and withdraws therefrom the delectable (to them) earthworms. As sportsmen and men of science know, the bird can manipulate the flexible end of the upper mandible so that the worms may readily be grasped and firmly held during the withdrawal from their moist habitat. Over eighty-seven per cent of the food of the birds examined were earthworms. The balance of their food consisted of insects and other animal matter and a few small seeds and other vegetable material. The birds included in this study were all taken during the fall so that this information represents their fall food and is not a complete picture of their year 'round diet.

On the whole the woodcock seems to be a healthy little cuss. A careful study of available specimens, for parasites and disease, indicated that less than fifty per cent were infected with tapeworms, roundworms and flukes. These, however, seemed to be having little effect on the birds. Little evidence of disease could be found anywhere.

Management practices for woodcock are being eked out at this research and demonstration project in Maine. Managing woodcock is a new idea to many people but it is not so far fetched as it might at first seem. For example, one of the essentials of the woodcock is ample singing grounds of suitable type, in his breeding range. This is a "must" and where there are no singing grounds there are no breeding woodcock. At the Maine project a series of artificial singing grounds were developed by clearing small areas of proper size and type. These artificial singing fields have been well accepted by the birds and used regularly.

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*U. S. Bureau of Biological Survey and Commissioner of Game and Inland Fisheries of Maine cooperating.

PADDED EVIDENCE

By CHRISTIAN HENRY, II

TONY WOOD, sitting on an old saw horse, painfully removed clods of mud from the soles of his boots, painful because his back ached and his legs were dog tired, and he had to bend to reach his feet. Yet he was content for behind him on the shed and next to Johnny Shober hung a full limit of pheasants and a pair of rabbits. At his feet lay a bony brown and white pointer.

"We were lucky to find that last bird," Johnny reminisced, his head back resting with his eyes closed. "If Tramp hadn't back-tracked to the orchard we'd be looking yet."

Tony's only reply was an affirmative grunt.

Johnny, several years younger than Tony, had been gunning since he wore knee britches and most of the time on Tony's farm. They grew up together but when Johnny decided to study law and Tony to stick to farming, they automatically separated. Yet every fall found them together again. After the season they went their own ways until the following year.

There was plenty of good cover on Tony's farm; the corn field, the gully partly swamp, and the best part was the old orchard. Only it was around the orchard that you might get into trouble.

The last chunk of mud fell on the ground and Tony straightened up with a groan.

"We're darn lucky that bird didn't run over on Gruntley's place," he remarked with a sigh.

It was Gruntley's farm that adjoined Tony's where the orchard ended and although they had never had trouble with Gruntley a great many others had. He was known throughout the country for his disagreeable temper and gunning season only served to make it worse.

"Funny thing about the old man," Johnny replied, "he's not interested in gunning and yet he's fit to be tied if anyone puts a foot on his land. Did you notice how he had his farm all posted according to law?"

"I know," Tony continued, "last year I asked permission to shoot but I didn't get to first base."

"It's a phobia with him," Johnny went on. "Someone told me he spends most of his time patrolling the place for the pleasure of catching a body. Even went so far last year as to entice fellows on and then nabbed them. If he sees you shooting near his property, he's sure to be around."

Gruntley's farm was the kind of gunning ground you dream about but seldom see. He never cut his fence lines and he left odd fields standing. His corn was never shocked clean and the abandoned orchard was overgrown with weeds having succulent seeds. The best part of the whole Gruntley area was where it adjoined Tony's orchard. Here the wheat had not been harvested in time and a heavy storm had generally laid it flat. The shocks were full of grain and the matted stalks made an ideal nesting ground. This section also ran down to the road and it was not unusual to see several gunners leaning on the fence gazing over the field with longing and despair.

"Old Gruntley can sit and wait a long time," Tony mumbled, "right now I wouldn't go near his place with a ten foot pole."

"Same here," Johnny agreed as he rose. "Got any choice?" he asked pointing to the pheasants.

"Help yourself," Tony replied, "and remember tomorrow morning at six. Breakfast here."

Johnny waved as he crawled into his car and drove down the lane.

* * * *

The following morning at seven sharp Tony unleashed Tramp and then followed Johnny to the edge of the meadow. It was another grand day. Snappy but not too cold, dry under foot except for the morning dew. In a few minutes they each had a rabbit but Tramp ranging across the field had failed to dislodge a bird, not even a hen.

"Let's cut up through our orchard," Tony suggested. "Sometimes the birds gorge themselves on Gruntley's wheat and then come over for a little exercise."

"Good idea," Johnny agreed, and they turned to enter the Garden of Eden.

The trees were spaced generously but the branches were wide and full and reached almost to the ground. They each took a lane leaving one between them for Tramp to cover. The grass was high and heavy and furnished good cover but the branches made shooting difficult. They had gone almost half way through before Tramp showed signs of excitement. He suddenly took an active interest. He slowed up abruptly, his tail wavering. First a few hesitating steps, then a half point. "Not the real thing," he seemed to whisper, "but look carefully now."

The bird was running, it was obvious, and Tramp had a job on his hands trying to hold it. At the last row of trees he froze on point.

Tony edged to the right, trying to get clear of the trees and Johnny was brushing branches away from his face. They came up rather noisily, perhaps that was why the bird flushed. At any rate up it came like an explosion of feathers.

Tony messed up under the apple trees, didn't have a chance to shoot; but Johnny was in a slightly better position and took a flyer. The pheasant toppled, seemed to hang in the air for a second and then dropped over the fence on forbidden Gruntley territory.

Johnny was ranting and raving through the trees.

"Just my luck," he moaned. "Not only do I lose a bird but sure as you're a foot high it's only crippled."

"Nothing much you can do about it," Tony remarked. "If you try to go over to get it, you'll be nabbed sure."

They approached the dividing fence line slowly and stood gazing over the wheat field. The field was pretty well down but enough of it stood to furnish a fairly good screen. They watched hopelessly for the crippled bird to move. In the meantime Tramp was raging up and down the fence trying to get through.

"Looks like we might just as well give up," Johnny admitted. "We'll never spot the bird in that stuff but I sure hate to let a cripple die out there."

But Tony did not reply. He was watching a section of the field a little to the left. As he peered intently the wheat seemed to sway. There, he was sure of it. He motioned to Johnny quietly. There was a pheasant. They could see it dimly in front of them.

Tony carefully raised his gun. It was the cripple, he was sure.

Then Tony fired, the feathers flew but the wheat hid the bird.

"Well at least we haven't let a cripple suffer for hours," Tony remarked turning to Johnny.

But Johnny was staring past him, his mouth ajar.

When Tony turned to follow Johnny's stare he looked square into the stormy countenance of his neighbor Gruntley.

"Don't them signs mean nothing to you fellows," Gruntley shouted as he walked over.

Tony grabbed for the obvious defense.

"We haven't put a foot on your ground," he replied.

"You don't know the law, young fellow," Gruntley growled. "When you shot over my fence you was gunning on my property."

Johnney tried to save the situation.

"We were after a crippled bird, Mr. Gruntley," he explained. "We shot him over here and he dropped on your side of the fence. If we hadn't shot him just now he would have died in a few hours anyway."

"Don't care nothing about that," Gruntley replied. "You gunned on my property and you're going to pay for it."

Tony stuttered in rage.

"The magistrate won't hold us for killing a crippled bird," he shouted. "Any human being would do it."

But Gruntley could not be swayed.

"We'll see about that," he growled. "You fellows go up to Craig's office and I'll be there. taint no use trying to slip away either cause I know you."

During the heated conversation they had forgotten Tramp and when he appeared on Gruntley's side of the fence Tony wilted. He whistled sharply but Tramp had important business on hand. He ranged up and down the field trying to find the bird. Eventually he crossed the spot where the bird was shot, he stopped for an instant to sniff vigorously and then dashed off. There was plenty of game in the field to judge by Tramp's action.

After a few minutes Tony gave up trying to attract Tramp's attention, he motioned to Johnny, shrugged his shoulders and turned away.

In the meantime Gruntley had gone over and picked up the bird.

"We're in trouble, old boy," Tony said as they walked back to the house. "Let's go up to Magistrate Craig's office and get this over with."

After dropping the rabbits and stacking their guns in a corner, they crawled into the car and drove off.

"Funny that Tramp didn't retrieve that bird," Johnny observed as they rode along.

"Not funny, just lucky," Tony replied. "Gruntley might have shot him on the spot for stealing. I've seen a lot of crabs but he takes the cake."

"It's still funny how Tramp ranged around with that bird lying there," Johnny persisted.

"Probably so much game in the field he couldn't keep his mind on his business," Tony replied, "or maybe he's psychic."

As they pulled up at Magistrate Craig's office, they saw Gruntley's car. He was there waiting, no doubt of it.

Craig lowered his spectacles to the end of his nose and looked solemnly at them as they entered. Gruntley was standing glowering at one side. The stage was all set for a fast play and Tony doubted that it would last one act, probably not more than the first scene.

"Sorry to see you here," Craig started. He had known them both since the time they were little shavers running around in bare feet. "Mr. Gruntley here tells me you were gunning on his place. It's all posted legally. If what he tells me is true, you appear to be guilty."

"We don't gun on posted property," Tony explained, "but if Mr. Gruntley told you that we shot a pheasant on his land while we were standing on my farm, I guess he's right."

"That's the facts as I got them," Craig continued. "Those signs say, 'no gunning'. When you shot that bird you were gunning. That's the law boys."

Gruntley kept strangely quiet. Apparently he did not intend to get into the discussion unless forced to.

"Did Mr. Gruntley explain that we shot a crippled pheasant which flew over from our farm," Tony asked.

"He didn't explain that point," Craig admitted, "but I don't see that it makes much difference."

Tony glared at Gruntley but so far as he could see it was a clear case and he was about to give up but Johnny stepped into the picture.

"Look here, Judge," he asked, "I don't get this question of gunning. Suppose we shot that pheasant on Tony's farm and it ran over on Gruntley's, would we be gunning on Gruntley's place?"

"No," Craig explained. "You can't keep a bird from going anywhere it likes. But in this case you admit shooting at a bird on Gruntley's land. The pellets are probably in the bird. That's gunning, boys, anyway you look at it."

But Johnny was not convinced. Probably his legal training made this a kind of game. At any rate he persisted. Gruntley would have to prove his case.

"Suppose we question the fact that we shot the pheasant," he asked. "How are you going to prove we were gunning. We might have shot at a gate post."

Craig scratched his head.

"Then I suppose it would be up to Mr. Gruntley to produce the evidence," he replied. "Habeas corpus or whatever it is those slick lawyers say. We find your size shot in the bird and Mr. Gruntley swears you shot at it and that's gunning. Now let's stop arguing and get this case settled."

But Johnny, for reasons of his own, insisted on seeing the bird.

Gruntley fussed and fumed but when Craig threatened to dismiss the charges he went out to his car and returned with the pheasant.

"Now are you satisfied," he growled as he laid the bird on Craig's desk.

Johnny walked over and felt the bird carefully. He raised a wing, looked at its feet and examined its head. Then he turned to Craig.

"As I get this, Judge," he asked, "if someone shoots a rabbit, or quail or a squirrel on posted ground, that's gunning, but if a fellow shoots at a tin can or something that isn't game, that's not gunning is it?"

Craig scratched his head.

"That's pretty fine, young fellow," he replied, "and I don't see how it affects this case but I'll answer. If anyone was wasting shells shooting at a tin can or something that isn't listed on his gunning license, I wouldn't consider that gunning. That would be just damn foolishness."

Johnny laughed softly.

"And," he asked again, "if someone brought charges that were not true he could be prosecuted for false arrest. Am I right?"

Craig nooded his head.

Johnny turned to Gruntley with a grin.

The air suddenly became blue. Gruntley raged and roared, he threatened all sorts of violence, but finally he grabbed the pheasant and stamped out of the room.

"Looks like that ends the case," Craig observed. "But for the life of me I can't see why he lit out."

Johnny doubled up laughing.

"What's so funny," Tony asked frowning. "How did you make him withdraw the charges?"

"Not me," Johnny replied, tears in his eyes. "It was Tramp."

"And what has Tramp got to do with it?" they persisted.

"He wouldn't retrieve," Johnny explained enjoying the mystery.

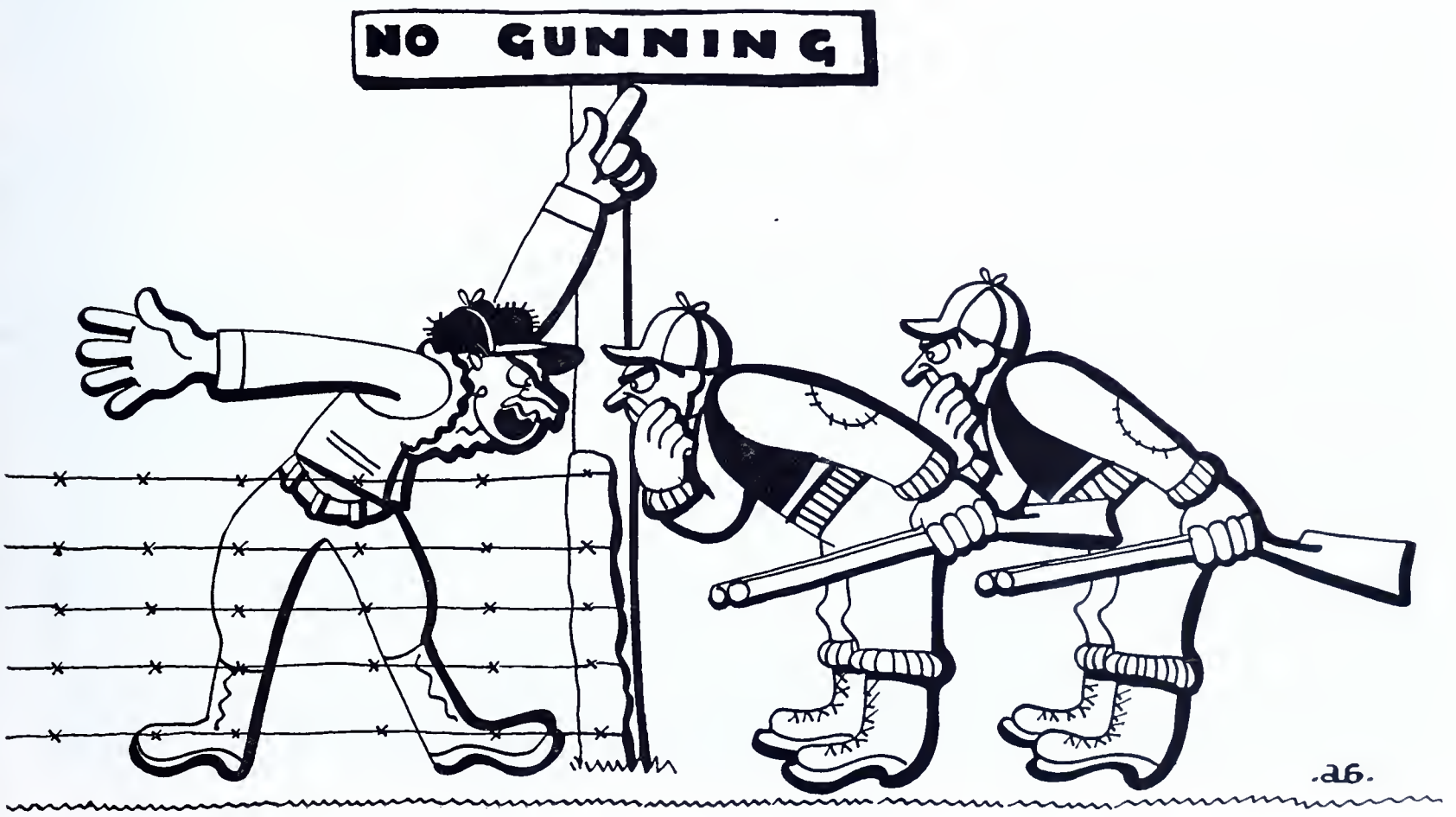
Tony looked at Craig but Craig only shook his head.

"Tramp? Retrieve? What's this all about?" Tony asked.

"Don't you see," Johnny explained, "we shot a pheasant. Then Tramp runs over to it, sniffs it and doesn't retrieve. Well, if it was real Tramp would have picked it up."

"You mean to say that bird was not alive I mean real!" Tony explained.

"Of course not," Johnny replied. "That's the reason Gruntley backed out. He didn't expect to produce the bird. You never shot the cripple, that's why Tramp was ranging so. You were shooting at a tin can, old boy. That pheasant was stuffed."





SPORTSMEN'S QUERIES



By CHAS. F. STAMBAUGH

SALE OF IMPORTED DEAD GAME BIRDS

Q. We are contemplating serving some wholesale supply houses in Pennsylvania with Chinese pheasants. What are the regulations of your state in this connection?

S.M.—Seattle, Wash.

A. It is permissible to import dead pheasants to Pennsylvania for sale if the carton containing the birds, or the individual carcasses, have attached a tag identifying the birds in plain English and giving the state or nation from which originally shipped. Before these birds may be offered for sale in this State, there shall first have been attached to each bird by a representative of the Commission, a metal seal, the cost of which is fixed by law at five cents each. This seal must remain attached until the carcass is prepared or finally cut for consumption.

* * *

POSITION OF GAME PROTECTOR ESTABLISHED

Q. When was the position of Game Protector established under the law? Was this position ever entitled "Game Warden"?

Everybody's Column—Philadelphia.

A. The position of Game Protector was established in Pennsylvania originally by the Act of June 25, 1895, P.L. 273. This Act created the first Board of Game Commissioners in Pennsylvania and authorized the Board to appoint ten competent men to be known as "Game Protectors". The term "Game Warden" has never officially applied to representatives of the Game Commission, as our officers were purposely designated "Game Protectors" so that the public could distinguish them from representatives of the Fish Commission, who I understand have always been known as "Fish Wardens".

* * *

PHEASANT DAMAGE TO GLASS WINDOW

Q. A pheasant flew into our show window, broke the glass, which cost $15.00 to replace. Will the State pay for this damage?

I.S.F.—Orefield, Pa.

A. No. Unfortunately, there is no law in the State under which it is possible to compensate for such loss, and in the absence of a necessary appropriation for that purpose, the State is unable to reimburse the unlucky person who has a window broken by a pheasant.

CAPACITY OF GUNS FOR BIG GAME HUNTING

Q. Is it lawful to load all guns to full capacity, including double-barrel shotguns, when hunting big game?

C.B.—Harrisville, Pa.

A. Yes, it is. The three-shell limit is not applicable to rifles, and applies only to repeating shotguns used for hunting wild birds and wild animals not classed as big game in Pennsylvania. There is no objection to loading both barrels of a double-barrel shotgun with single ball shells for hunting deer or bear.

* * *

NETTING STARLINGS

Q. Is it lawful to trap English Starlings by the use of a large net?

G.P.—Philadelphia.

A. No. Under the present Game Law it is strictly illegal to use a net for taking any wild birds or wild animals, and you must refrain from trapping English Starlings with a net.

* * *

MINORS PURCHASING AMMUNITION

Q. (1) Does a hunting license give a minor the right to purchase shells or cartridges? (2) How old must one be to buy .22 calibre or other shells?

J.E.McG.—Leechburg, Pa.

A. (1) No. A hunter's license is a privilege to hunt wild birds and animals and not an authorization to purchase shells or other ammunition. (2) The Act of June 10, 1881, P.L. 111, makes it unlawful to sell to any person under sixteen years of age in Pennsylvania, any cartridges, gun powder or other dangerous and explosive substances. Violations of this law are punishable by a fine of not exceeding $300.00.

* * *

REPLACEMENT OF HUNTER'S LICENSE AND TAG

Q. I lost my hunting license and tag. Please let me know what to do about it.

G.J.W.—Midway, Pa.

A. Go to the agent who issued the license and purchase a duplicate at a cost of $1.00. This can be done by giving him your original number and making a sworn statement of the facts in connection with the loss of the first license. You must not hunt without a license.

INDIANS' RIGHT TO HUNT

Q. Has an Indian the right to hunt and kill game in Warren County any time of the year, without a hunting license? Can he kill game on the Indian Reservation and take it off the grounds?

F.C.D.—Clarendon, Pa.

A. Under an opinion rendered by the Pennsylvania Department of Justice in 1933, the Corn-Planter Indians now on land comprising about 750 acres in Warren County, which had been ceded to them, are permitted to take game of any kind in contravention of the general hunting regulations of Pennsylvania. This opinion is based upon an Act of Assembly dated February 1, 1791 in which the right of the Corn-Planter Indians to hunt game on their own Reservation was reserved for them.

However, if a full-blooded Indian from the Reservation marries a white woman and takes up his residence at some point outside the reservation, we question whether that Indian would have the right to remove game from the Reservation to his home. Such game if killed under the special privileges allowed the Indians, should, in our opinion, be consumed on the Reservation.

* * *

DOE DEERS WITH ANTLERS

Q. Have you ever heard of doe deer having antlers?

M.C.—Waynesboro, Pa.

A. Yes, this occurs once in a while. During the past ten years several doe deer have been killed in Pennsylvania with antlers. Of course, this is a freak of nature and is rather unusual.

* * *

SNARES

Q. Is it legal to use snares for taking foxes and wild cats?

H.E.M.—Brookville, Pa.

A. No. The present Game Law strictly prohibits the use of snares for taking foxes, wild cats or any other wild animals, and no permits can be obtained for that purpose.

(Continued on page 24)

TUSCARORA

By FRANK P. PLESSINGER

IN the south central portion of our state a mountain range extends north to the Juniata River from the Maryland border. It forms a natural boundary between the counties of Franklin and Perry on the southeast and Fulton, Huntingdon and Juniata on the northwest.

The summit of this range averages about 2,000 feet over its entire length and is covered with hard wood forest, with natural game food on every hand, and with clear cold springs bubbling up through the white Pocono sandstone. It is, and always has been, the natural habitat of deer, wild turkey and the various kinds of small game found in this region.

Near the northern end of the range in Perry and Juniata counties lie State Game Lands No. 88, while at the southern extremity is found a similarly large tract, State Game Lands No. 124. In between are the Tuscarora and Rothrock State Forests in which are set apart several wild turkey refuges and in Allen Valley just north of the Lincoln Highway there recently has been built a dam on the headwaters of the Aughwick, a famous trout stream.

The range takes its name from the Tuscaroras, a tribe of Indians who once lived in Tuscarora Valley and roamed over the mountains. They came from the south near the Great Smokey Mountains in Tennessee where, being a small and rather peaceful nation—as most small nations were—they found they could not hold out against their fierce neighbors, the Creeks, Seminoles and Catawbas of the Carolinas and Virginia. The Sachems of the tribe decided they should move northward and place themselves under the protection of the Lenni Lenape or Delaware nation in Eastern Pennsylvania, which they did.

Around the council fire at a place in what is now Lancaster County they were told that while the choice hunting grounds in that region were all needed by the Delawares yet far to the west "in a valley beyond a great mountain" they would be given a home and the protection of the Delaware nation which in turn became, later, allied with the Five Nations of New York, henceforth called "Six Nations", but were never treated as equals or given a seat at the council.

So to the Tuscarora Valley they came, built their lodges, hunted on the Tuscarora Mountain and fished in the Tuscarora Creek—a sizable stream which empties into the Juniata River—and here they lived for many happy years.

Just across the river lived some of the fierce Susquehannocks, but they appear to have been very good neighbors for while both tribes speared salmon in the Juniata, the Tuscaroras kept strictly to their own side of the stream and gave no cause for an action in trespass.

One of the four great Indian trails which crossed the State from north to south passed through their valley and the valley east of the mountain called Path Valley. Along this trail in single file might be sometimes seen war parties from the Six Nations in full paint and feather, chanting their war song, journeying to the south to fight with their ancient enemies in the Carolinas. Months later these same warriors might return laden with scalpes and driving prisoners before them.

Perhaps only a few stragglers would find their way back to their wigwams by the northern lakes. Perhaps none—their scalps would all be drying in the lodges of the Catawbas. The Tuscaroras looked upon these passing war parties but they stayed right at home, chased the deer and fished in peace and contentment.

Then came disaster—The white man had arrived in Pennsylvania.

The Delawares were pushed steadily westward by the encroaching settlements and in 1755 emigrated in a body to the Wabash River in Indiana. Up to this time the summit of the Tuscarora Mountain was the western boundary of the land purchased from the Indians but regardless of this the adventurous settlers were pouring into the fertile valleys beyond, and there was trouble a-plenty. At first upon complaint of the Indians the provincial government tried to evict the settlers in the Great Cove and a few log houses were burned near the town of Burnt Cabins, Fulton County, but back they came and built anew. So, on July 6, 1854, a treaty was made with the Shawnee nation and later ratified at a council of the Six Nations opening for settlement all that territory as far west as the Allegheny Mountain and north to the present boundary of Center and Northumberland counties.

Sadly the Tuscaroras left their homes and journied northward to the lodges of the Six Nations in New York. They were given a small reservation along the Niagara River and here the remnant of their tribe is found today. They fish in the swift waters of the Niagra river and sell curios to tourists. Uncle Sam has built nice comfortable cottages for them but not many live in these. They go down on the steep river bluffs and from driftwood, rocks and discarded roofing they construct rude lodges where they live most of the time.

When Fort Niagara was restored some time ago four nations took part in the dedicatory exercises and the Indian nation was represented by the Chief of this small Tuscarora tribe after which our valley, stream and mountain were named.

According to an early writer they have left an outstanding example in game conservation which we might well ponder for it is said that when the Tuscaroras left the valley there was as much game in the woods and as many fish in the streams as when they came for if a deer was taken no more were killed until the first was consumed and only enough fish for one day were allowed to be caught.

The same writer relates an incident known as the "Grasshopper War"—Two families lived on opposite sides of the Tuscarora Creek and the children played together. One day they found "a very big, large grasshopper". Each wanted the insect and finally they fought for it. Their cries brought members of both families to the spot. They promptly took sides and a free-for-all was in progress in less

(Continued on page 32)

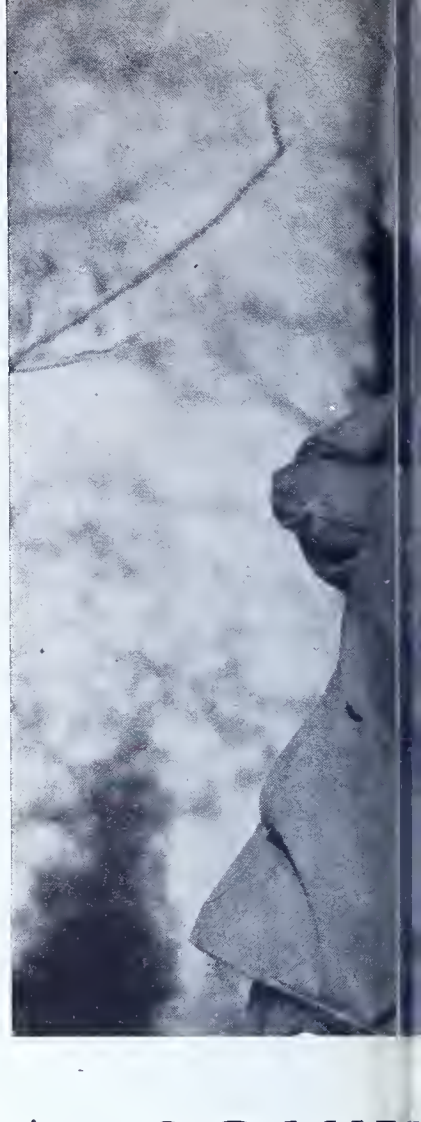


View from top of Tuscarora looking west toward McConnellsburg.



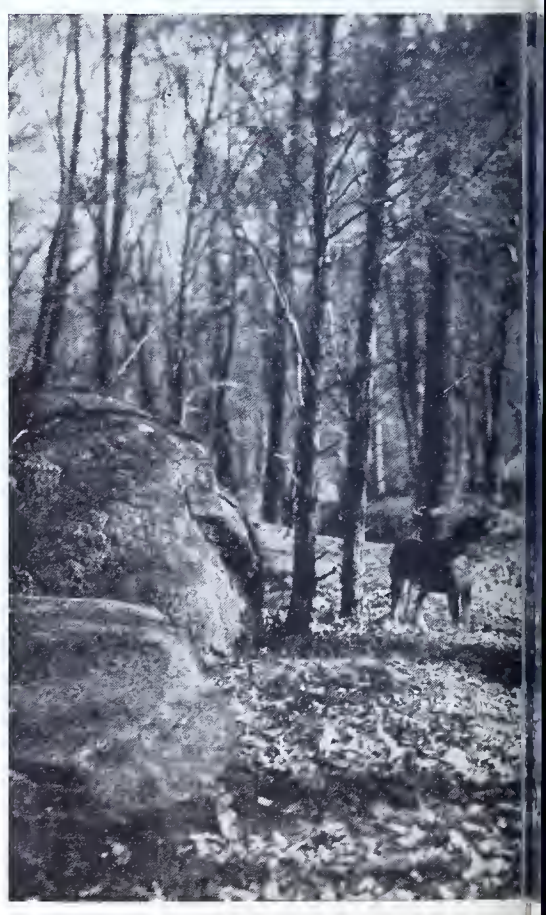






A SQUIR

These excellent squirrel
Messrs. Wm. Drake and G
cooperation of "Ben" Tarma
"Bill" Britton, Franklin Co
colored motion pictures of
the Commission very soon.





REL HUNT

ing pictures were taken by
din Krieble with the splendid
game dealer, Quincy, Pa., and
y Game Protector. Beautiful
ame hunt will be released by











GAME KILL ANNOUNCED

Preliminary figures indicate that because of improved game conditions the number of licensed resident hunters reached a new all-time high of approximately 640,000, while the number of non-residents dropped to 7,400.

Unparalleled in the history of the Commonwealth was the report of antlerless deer taken during the six-day season. Based on field estimates, it totalled over 127,000, which was in accord with the Commission's early expectations. Complete tabulation of the *game-kill reports, which are now due*, is under way, and may increase the bag. Last year the Commission thought the field estimates were high, but was amazed upon the completion of the tabulation of reports received, which numbered over 93%, to learn that in most cases they were exceedingly low.

Plenty of Deer Left

Reports from the field indicate beyond any doubt that there are ample deer left in all the true deer range, and the Commission has already received deer damage complaints from numerous farming sections. It is possible that too many deer may have been removed in certain sections but if such was the case it occurred only because hunters failed to follow the Commission's suggestion to hunt in territory where deer were most abundant and where damage was greatest. That was the purpose behind the season, and any failure to accomplish that purpose is due in large measure to the hunters themselves. Much praise is due the many true sportsmen who went to the trouble of caring for and bringing in illegal deer shot by mistake, knowing full well they would be compelled to pay half the penalty for making such a mistake. Too much emphasis cannot be placed upon such fine sportsmanship.

The bear season also was good, 211 having been killed during the six-day season. However, there are plenty of bears left. Many were observed by deer hunters following the bear season and since then by field officers and local residents.

Small Game Kill Excellent

The small game season was by far the best in several years, due primarily to an abundance of food, and the hunters behaved themselves in a splendid manner generally. The estimated kill included rabbits, 2,847,000; hares, 2,000; squirrels, 729,000; raccoons, 40,500; grouse, 120,000; quail, 37,000; ringneck pheasants, 500,000; wild turkeys, 4,400; woodcock, 34,000; ducks and geese, 44,000 and woodchucks, 120,000.

IN MEMORIUM

Words cannot express the feeling of sadness with which we announce the untimely death of William D. Foote, Traveling Game Protector, Port Allegheny. He passed away suddenly at his home late in the evening of December 1 after a strenuous day's work. Mr. Foote was only 41 years old and had completed just six years of service. He entered the Commission as a Refuge Keeper on December 1, 1932. He was one of the most valuable members of the field staff, and his passing is a great loss, both to the Commission and to the sportsmen.



CHAUNCEY E. LOGUE

Chauncey E. Logue, of First Fork, Cameron County, who for a number of years was Trapping Instructor and more recently Traveling Game Protector, resigned from the service as of December 31, 1938 after having served the Department for more than eighteen years. Mr. Logue retires with the best wishes of the entire department.

"COOPERATION IS THE ART OF SO CONDUCTING YOURSELF THAT YOU ARE EASY TO WORK WITH."

COOPERATION

The Pennsylvania Game Commission expresses its genuine appreciation for the splendid cooperation by members and commanding officers of the Pennsylvania Motor Police who assisted in the enforcement of the Game Laws during the past hunting season.

The extent of cooperation received is clearly shown in the following report submitted to the Law Enforcement Division by the commanding officer of the First Squadron, with headquarters at Greensburg.

The First Squadron, consisting of five troops, with headquarters at Greensburg, Washington, Punxsutawney, Butler and Erie, and commanded by Major Jacob C. Mauk, furnished a total of 153 men during the open hunting season who devoted 985½ hours to Game Law enforcement and made 64 arrests for infractions of the Game Laws during this period.

Similar cooperation has been received throughout the entire State; however, detailed reports have not been received from all squadron commanders.

Two years ago two young officers from the Division of Game and Inland Fisheries of North Carolina completed the course at the Pennsylvania Game Commission Training School. The other day J. D. Chalk, Commissioner of Game of that state wrote Mr. Gordon as follows: "The two boys who trained with you up there last year have earned the worth of their schooling many times over since their return."

During November, 1,505 prosecutions for violation of the Game Law were made, and $7,150.48 was collected in penalties. These figures do not represent all the money collected during that month as the volume of fines received was too great to audit and deposit at that time.

Thirty-two sheep and four beehives were destroyed by bears during November. Depredations were committed in McKean, Potter, Forest and Tioga Counties.

M. B. Wells, Game Refuge Keeper, Wyoming County, trapped a large female coyote in Tunkhannock Township, Wyoming County, on December 16th.

ON GUARD

Rumor has it that there will be a concerted effort made to have more domestic anti-firearms legislation not only considered but passed by the next Congress. This is an old old story, yet it cannot be ignored, and sportsmen everywhere should be on their toes in order to combat any legislation which would interfere with the use of shotguns and rifles for legitimate sport.

Crime control is one thing; hunting, trap and skeet shooting is another. No one has the right to class the shotgun and rifle along with the tommy gun and the thug's pistol.

Quoting from Hugh Grey in a recent issue of "Hunting and Fishing:"

"There is another aspect of this anti-firearms agitation which is particularly pertinent in these times of international ferment. Our Federal Government is launching a program of naval and army expansion intended to show the saber-rattling dictators of Europe that it would be best for them to confine activities to their own back yard. Millions of dollars will be expended on warships and aircraft to insure the United States from foreign aggression. Certainly a Congress which saw fit to condone an armament program of such magnitude cannot be so inconsistent as to pass anti-firearms legislation which would strike a crippling blow at the very vitals of American preparedness. The United States has always maintained one of the smallest armies, both militia and reserve, of any country in the world, yet in times of war it has been able to martial a force of gun handlers second to none. Undeniably the reason for this has been that the great majority of American males have grown up with a familiarity of firearms. Much of the vital history of our country has been wrought by men who, although not overly proficient in the manual of arms, could shoot straight and handle a rifle safely and efficiently. Because of this, it was possible for the United States, during the World War, to take raw recruits from the four corners of the country, give them a minimum of instruction in tactical maneuvers, and turn onto the battlefields of France an effective army, superior in marksmanship to anything the world had ever seen. Today, that proficiency of marksmanship is nourished and carried on in the hundreds of organized rifle, shotgun and pistol shooting clubs throughout the country and (which is less tangible but more important) by the hundreds of thousands of unorganized sportsmen who hunt our various game species from gray squirrel to grizzly, and know, understand, yes, love their guns with an affection shown only to timehonored friends. The right to possess and use firearms is as much the privilege of law-abiding citizens as is freedom of speech or religion. Curtail, restrict, or destroy that right and you break down America's front line of defense against foreign dictators; take the first step toward dictatorship at home."

Two and a half acres were added to the Beavertown Game Food Nursery recently to be used in connection with the production of blight resistant Asiatic chestnuts and other food producing trees and shrubs. The Nursery now contains seven and a half acres.

NOTES FROM THE FIELD

Refuge Keeper Chester Siegel, of Lycoming County, reported that he checked a doe that weighed 150 pounds and had button horns.

"On November 23, 1938, while patrolling along the Susquehanna River, Great Bend Township, Susquehanna County, I observed a sharp-shinned hawk attacking a song bird in the air directly over the river. The hawk drove the bird to the bank of the river where it struck it down in full flight and apparently began to feed upon it."—Refuge Keeper Howard Hoffman, Susquehanna County.

Elmer Pilling, Refuge Keeper of Centre County, reported that two deer were killed by automobiles on the little stretch of highway near his place, the first three days after the antlerless deer season.

"Mr. Raymond Cessna, RD No. 4, Bedford, reported that on Thanksgiving Day a member of his hunting party shot down a large turkey just before dark. The following morning they returned to the place to look for the bird. Approximately 10" of snow had fallen on Thanksgiving Day, making tracking possible. They noticed a fox track in the snow and later saw that the fox tracked the bird and finally routed it. After quite a run sly Reynard caught the bird and ate most of it . . . . "

"Mr. Perry Morgart, RD No. 4, Bedford reported that he tracked a mink in the snow during deer season and found where it had killed four rabbits and pulled all of them under a slab pile about 150 yards from his barn."—Refuge Keeper Albert Bachman, Bedford County.

Mr. Overturf, Caretaker at the Training School, writes that a ruffed grouse recently flew through one of the dining hall windows and was in the kitchen when he returned to the building one afternoon. He thought at first that someone had shot through the window until he found the bird, which was uninjured.

"Caught a great horned owl a couple of weeks ago and had it in a cage here at the Refuge house. A weasel got into the cage the other night and chewed its head off."—Refuge Keeper Chester Siegel, Lycoming County.

Raymond Holtzapple, Game Refuge Keeper, reported flushing 16 ringneck pheasants recently within 600 yards of the refuge house on the Mt. Gretna Military Reservation.

Game Protector W. W. Britton was interested in finding out whether the lesser yellowlegs eats fish to any great extent. Clarence Cottam, In Charge of Food Habits, Division of Wildlife Research, Washington, D. C., answered Mr. Britton as follows:

"I might state that out of 771 stomachs we have examined of this species (lesser yellowlegs), 145 contained fish. However, the fish consumed are not of economic significance, being mostly minnows and killifish." According to Mr. Cottam the Biological Survey has no data indicating that the lesser yellowlegs or any other shorebird is detrimental to the fishing industry.



NYA project, Phillipsburg, making rabbit traps. This is only one of several such projects throughout the State.

CURRENT TOPICS

A PIONEER CONSERVATIONIST

Coleman K. Sober, born November 24, 1842, in Northumberland County about seven miles from Shamokin. His whole family were excellent shots, his wife being the only child of a famous gunmaker of the Susquehanna Valley. She was not only an excellent rifle shot but also an expert mechanic. Skill in shooting was acquired in testing the guns turned out in the shop. She later manufactured a gun which became the property of her future husband.

Mr. Sober's record as champion gun shot of the world deserves more than passing notice although it is only in a somewhat limited manner that we can speak of his marvelous skill. His wonderful gun feats numbered over 200 and were not mere tricks but the effect and result of scientific and skillful calculations. He started chestnut growing when a mere boy and later became proficient in the culture. One of the trees named for his pioneering is the Sober Paragon.

A fine shot and enthusiastic huntsman, Mr. Sober went into the field of sport with the same zeal and keen intelligence that he brought to bear on all his other interests. In the pursuit of his lumbering operations covering a period of forty years he found great opportunities to familiarize himself with the habits of game, and his keen powers of observation together with his natural inclination of systematizing his knowledge made him a recognized authority on such matters. He took the position of Game Commissioner, in 1896, with an object and was able to influence the enactment of many of the wisest provisions now embraced in the Game Law of Pennsylvania. Mr. Sober was also a great inventor, and was patentee and manufacturer of acetylene gas generators, conducting his business at Lewisburg.

A REVIEW

There was recently brought to the attention of the editor by James N. Morton, Assistant Director of the Bureau of Refuges and Lands, a very interesting book entitled "Feathers and Fur on the Turnpike" by James R. Simmons, published by the Christopher Publishing House, Boston, Mass., for the very nominal cost of $1.75. Mr. Morton, who was asked to review the book for the Journal of Forestry says that the author has produced a text which provides interesting and valuable information and data pertaining to mortality of wildlife on the highway. He has also provided an index to trends of thinking in the intimately related fields of forest and wildlife management.

Part I contains a comprehensive and well documented review of the author's specific studies of highway casualties of wildlife gathered over a ten year period, as well as some interesting observations of wildlife habitat.

Part II includes a worthwhile chapter on forest and wildlife management wherein the correlation of practices affecting timber production and wildlife is discussed along with the necessity for wholehearted cooperation between foresters and wildlife technicians. Furthermore, it is attractively illustrated and contains two sketch maps, three tables and a casualty curve graph.

A doe deer mysteriously appeared on a Philadelphia street recently. Two policemen saw it trotting down a sidewalk and tried to catch it. However, the animal tried to jump a six foot wall and broke its leg. The officers were forced to shoot it.

GABRIELSON REPORTS

Highlights of the Annual Report of the Bureau of Biological Survey as stressed by Dr. Ira N. Gabrielson, Chief, indicate that wildlife restoration is fundamentally a program of land utilization. Unwise land use has ruined many wildlife areas that had greater value to man in their natural state, but many of these areas were and are being restored by the purchase of sub-marginal land, according to the Survey Head. In the past year 17 new units were added to the system of national wildlife refuges, bringing the total on June 30th to 248 covering 11,650,358 acres. Of these 232 are in the United States and the remainder in her possessions including Alaska, Hawaii and Porta Rico.

A general increase in waterfowl during the past year has been attributed in part to the success of the refuge program. The refuges are also being used increasingly as scenes of research studies. Further research is also being conducted on cooperative research units at ten land grant colleges which were developed during the past year.

There was also perfected organization plans for disbursing funds to the states under the Federal Aid Bill. A number of successful prosecutions for commercializing game and transporting pelts illegally were made, and greater protection was afforded domestic livestock and game animals in cooperative vermin control campaigns. There was also completed a survey in the 48 states which indicated that game management as a supplementary farm enterprise has had varying degrees of success.

Quite a few licenses were lifted in the field and sent to the Commission's offices at Harrisburg during the small game season. Some were taken for spotlighting game, some for possessing both large and small game and fur-bearing animals during the closed season, and a large number for possessing ringneck pheasant hens, and others for shooting over the limit of rabbits and pheasants. A large number of non-residents also were caught cheating and fined, several aliens were caught hunting, and some hunters were found intoxicated. A Franklin County hunter was arrested for hunting with a double barrel shotgun while under the influence of intoxicants. He was found lying along an old log road in the mud and water, and when approached, threatened to shoot another hunter. An undischarged shell was found in one barrel of the gun. Determined to break up this kind of hunting, the Commission fined the offender $25.00 and denied him right to hunt for a year.

Herman S. Beeler, of Baden, is carrying on a splendid program of wildlife conservation among the schools and Scouts of that community. He has made personal donations of game food and pine trees, has superintended their distribution and planting and has otherwise contributed much of his time, money and effort to the cause of wildlife. His 1939 program calls for a donation to young boys from twelve to twenty-one of a swimming pool, 100′ x 80′ and a clubhouse 20′ x 8′. The latter will be fully equipped with tools. He is also teaching the boys how to build rustic bird boxes and expects to give each one a two-year's subscription to the GAME NEWS.



Rabbits just arrived in Harrisburg for restocking in Dauphin County.

LOST OR STOLEN

Black, Brown and White Bench Beagle—Name, Kipp—Age—6 mo., Sex—Female. No. 13 in right ear 1 inch high.

Red, Redbone Hound—4 white feet, Name—Brownie, Sex, Female, Age—five years. 4 licenses on collar. No. 123 in right ear 3/8" high. Please notify Carl C. Rosser, 1300 Rural Ave., Williamsport, Recorder of dogs for the Consolidated Sportsmen of Lycoming County.

One fifteen inch male beagle hound, brown head and legs; black saddle, white-tipped tail and feet. Butler County, vicinity of Slippery Rock. Reward for information leading to the return or concerning whereabouts of this dog. Edmund C. Gallenz, RD No. 1, Glenshaw, Pa.

One eight month old female Pointer, brown and white—mostly brown—strayed or was stolen from kennels at Mineral Springs Hotel, Saxonburg, Saturday, October 29. Name and address of Clayton A. Rugg, owner, Jamestown, N. Y. on collar. If found, notify Mr. Rugg. Reward offered.

"Conneautville 4-H Club will build a game feeding shelter and explain its purpose at the Harrisburg State Farm Show. This group of boys will be permitted the use of the stage for 20 minutes, and during this time they will build one 8′ x 8′ shelter with feed hopper, shield the west and north side of shelter to protect game from weather, display one pole for squirrel feed, containing ear corn, and one wire basket type ear corn feeder. I have agreed to assist these boys and help instruct them in the shelter work, hoping we may interest other 4-H clubs in game feeding work."—Refuge Keeper Burt Oudette, Crawford County.

G. Dewey Fenstermacher, Instructor of the Electrical Shop of the Central Junior High School, Allentown, recently wrote us as follows: "In your excellent Bulletin No. 17, "Pennsylvania Bird-Life," you encourage bird protection and attraction to man made houses. Realizing the enormous amount of man hours daily wasted in our prisons, I received permission from our County Prison Warden, Mr. Henninger, the County Prison Board, and President Judge Richard W. Iobst to build bird houses of all types to be erected on the Trexler-Lehigh Game Preserve and other suitable county property. The lumber will be donated by the local branch of the Pittsburgh Plate Glass Company, and the nails and paint by other public spirited citizens. I personally will lend my assistance in their construction and suitable placing during early March." Congratulations on a fine piece of work, Mr. Fenstermacher. Incidentally, there seems to be a tremendous amount of effort being put forth in the schools of Lehigh County toward better game conservation which can be contributed in large measure to the work of the County Federation of Sportsmen's Clubs and the column of Charles Nehf, of the "Allentown Morning Call."

Pupils in the Stutzman School of Westmont were practically driven from the schoolroom by the odor of a skunk that was traced by borough police to a parked automobile near the school. On the bumper of the car was the dead animal.



Refuge Keeper's Headquarters at Mt. Gretna Military Reservation.



Spring at Mt. Gretna refuge beautifully enclosed and landscaped by WPA workmen.



Many people draw water from the spring daily.

WITH THE CLUBS



The Game Commission expects to again arrange with a seed house for the preparation of the Pennsylvania Game Food Plot Mixture for planting the spring of 1939.

The mixture was developed more than a year ago after conducting a number of other experiments. It was used for the first time during the planting season of 1938 with considerable success.

The purpose of a mixture of seeds is to provide in a game food plot a more or less continuous supply of food from early fall until late winter. This is done by including some seeds which mature early in the fall and others which retain the seeds on their stems until later.

Last year more than four tons of the mixture was made up and a greater part of it was purchased and planted by individuals and sportsmen's organizations. Part was used for planting plots on State Game Lands and Game Refuges.

Sportsmen's organizations particularly manifested an intense interest and are to be congratulated on their planting program, which resulted in a very essential addition to the wildlife's food supply. A considerable interest in the mixture was also manifested outside of Pennsylvania as evidenced by reports which were received from the seed houses and information which was requested from the Game Commission. Orders were received from a great many different States and inquiries concerning it from many distant points.

Slight changes have been made in the formula for this year in the hopes that the mixture will be made better. Sportsmen's organizations are urged again to take advantage of the purchase of this material for the planting of game food plots.

Information will be available later as to the seed house where the material will be made up, and in the meantime anyone who is interested in getting a quantity should write to the Pennsylvania Game Commission, Bureau of Refuges and Lands, Harrisburg, Pa., and the information will be furnished as soon as available.

TIME-TABLE FOR ROASTING GAME

Kind	*Oven Temperatures* *Searing Time*	*Reduced Temp.*	*Constant Temp.*	*Stage*	*Time, per Lb. (approximate) Minutes*
Wild duck, goose			325-350	Well done	15-20
Pheasant			325-350	Medium	15-20
Grouse	15	325-350		Well done	total 55-60
Quail			350	Well done	total 25-30
Rabbit and Squirrel			325-350	Well done	(total hrs.) 1½-2
Venison	20	300-325		Well done	(total hrs.) 1½-2
Venison				Rare	20-22
				Medium	24-27

The untimely death of Dr. John Charles Phillips, of Wenham, Massachusetts, associate curator of the Harvard Museum of Comparative Zoology and Chairman of the Massachusetts Conservation Council was a great shock to naturalists, sportsmen and conservationists the country over. Only those who really knew Dr. Phillips can appreciate what his unswerving loyalty to the cause of conservation has meant throughout the year. His interest in conservation and wild bird-life prompted him to give the State of Massachusetts many wide tracts of land, and as President of the Massachusetts Fish and Game Association for six years he was an untiring worker for extending wild game-life in that state. Dr. Phillips died of a heart attack while on a hunting trip. He was a brother of William Phillips, U. S. Ambassador to Italy.

The sportsmen of Charleroi and vicinity lose a very good friend through the untimely death of Kerfoot W. Daly, hunter, fisherman, civic leader and banker, who was almost instantly killed recently while returning from a brief hunting trip with Dr. John McNaughton, Charleroi dentist, long a companion and friend. While not active in sportsmen's organizations Mr. Daly was, nevertheless, intensely interested in the Game Commission's program and was responsible on a number of occasions for the acquistion of land for use on farm-game projects.

Peter Krass, well known organizer for Allegheny County Sportsmen's Clubs, writes that he is running a contest in that section on building bird houses, feeding stations and shelters for wildlife. Approximately fifty local sporsmen's clubs and Boy Scout troops are participating.

He also announced the formation of a colored organization known as the Montour Sportsmen Association. Mr. Krass says this group is extremely active and is doing much to further the interests of wildlife.

The Scalp Level Sportsmen's Association is going to undertake quail propagation during the coming summer. They have one large and seven small ringneck rearing pens and two quail pens, all built according to Game Commission specifications.

The West Chester Fish and Game Association summed up its activities last year as follows: Released 60 ringneck pheasants, 62 quail and 125 rabbits; released 1200 legal sized brook trout and 2800 fingerlings, 800 brown trout, 2500 small mouth bass, 900 catfish, 900 break, 600 tadpoles and 50,000 perch fry. The organization also erected many feeding shelters during the current winter.

Sportsmen of Cameron County under the able leadership of W. D. Munsell of Emporium have invited about 200 sportsmen from Allegheny County into that section for the purpose of trimming apple trees, cutting brush and otherwise improving food conditions for wildlife. The event will take place on February 19. Peter Krass, of Carnegie, is in charge of the crew from Allegheny County which will travel overland by auto in a large caravan piloted by motor patrolmen.

The Adamstown Wild Game & Gun Club recently released 84 cottontail and 4 jack rabbits. The association also erected an automatic target trap on grounds which they recently purchased.

T. T. Charlton, of Munhall, won the Class "A" Trophy in the first Annual Member's Small-bore Rifle Championship Tournament held by the McKeesport Sportsmen's Association.

J. Frey, of Homestead, won the Class "B" Trophy. Miss Margaret Markey, only woman entered in the matches, finished in seventh place. Both Charlton and Frey were awarded valuable bronze trophy cups to be held by them for one year. Charlton, as winner of Class "A", was also awarded the Championship brassard, to be held permanently.

The East Forks Sportsmen's Association, of Potter County, organized about eight months ago and consisting of members young and old from East Fork Valley, which extends from Cherry Springs south to Wharton, a distance of sixteen miles, now boasts a membership of 109—an excellent showing for so thinly populated a mountainous section of the Commonwealth. The club is extremely active, and according to an interesting letter received from Charles L. Miller, one of its members and a comparatively new resident of that community, recently decreed that all members not receiving the GAME NEWS be placed upon its subscription list, receipts to be paid out of the club treasury. Furthermore, all new and renewing members will be given a copy of the NEWS.

The committee on conservation of forests and wildlife of The Campfire Club of America recently rounded out thirty years of active service in the interests of the natural resources of America. It would take far more space than the limited pages of this magazine to record the splendid work done by this organization. Nevertheless, it is only fitting and proper that we in Pennsylvania take this means of voicing our commendation and appreciation of its outstanding accomplishments. We wish The Campfire Club of America every success in the years to come.

During the past two years the Deer Hunters Association, Harrisville, paid a $2.00 reward for each red and gray fox, $.50 for each hawk and owl and a box of shotgun shells for every ten crows in a vermin campaign. The net results were 44 red and gray foxes combined, 28 owls, 66 hawks and 1140 crows.

OFFICERS OF FEDERATION OF SPORTSMEN'S CLUBS



Front Row, Left to Right: R. S. Cooper, Connellsville, Pa.; Charles A. Rowe, Doylestown, Pa.; John C. Youngman, Williamsport, Pa.; Hon. Grover C. Ladner, Philadelphia, Pa.; Dr. C. A. Mortimer, Wilkes-Barre, Pa.; A. J. Hanes, St. Marys, Pa.; Colin McF. Reed, Washington, Pa.

Back Row, Left to Right: W. H. Kreltz, Lancaster, Pa.; Joseph Shreve, Johnstown, Pa.; F. F. Marshall, Lock Haven, Pa.; M. C. Merritts, Altoona, Pa.; J. L. Neiger, Scranton, Pa.; J. H. Barkley, Punxsutawney, Pa.; C. H. Buchanan, Sharon, Pa.; Odd H. McCleary, Ellwood City, Pa.; N. C. Farnham, Honesdale, Pa.

The annual meeting of the Federation will he held this year on Monday, February 13, at 9 A.M. in the House Caucus Chambers. All resolutions to he presented to the Federation should he in the hands of its Secretary-Treasurer, Dr. C. A. Mortimer, Wilkes-Barre, hy February 1. Each resolution must be on separate sheets of paper, typewritten, and douhle spaced. The Directors of the Federatiou who sit as a permanent Resolutions Committee will meet at the Penn Harris Hotel, Harrisburg, at 10:00 A.M., February 12.

LEHIGH COUNTY FEDERATION MEETS



Pictured at a recent meeting of the Lehigh County Federatiou of Sportsmen's Clubs at the North End Rod and Gun cluh, Fullerton, are: Charles H. Nehf, the Allentown Morning Call's "Field Sports" columnist, secretary; Earl Cope, Emmaus, second vice president; John H. Craig, Slatington, treasurer; F. Al Brown, Allentown, president-elect; Charles W. Wessell, Harrisburg, chief of propagation for the Game Commission; Walter D. Readinger, Macungie, past president; Robert D. Dreisbach, alternate delegate to the southeast and state federations; Forrest B. Kelfer, Alhurtis, first vice president.



One of the very few night-shooting grounds for skeet has been established in Greenville, Penna., by the Greenville members of the Mercer County Sportsmen's Association from publicly raised funds given by Greenville sportsmen.

FINE RECORD

The following letter addressed to the Editor is a striking example of the spirit manifest by many sportsmen's clubs throughout the Commonwealth. It is that spirit and that spirit alone which has made Pennsylvania a pioneer in wildlife conservation and good sportsmanship.

"The Charleroi Sportsmen's Association, founded in 1934, reached the peak of its membership in 1938 with 405 members, a gain of 219 over 1937. Some of the events which helped sell the organization to the community are: bird house building contests by juniors in high school for which $10.00 was donated for prizes; several sports rallies and outdoor meets; construction of a regulation indoor rifle range; artificial propagation of quail and ringneck pheasants through the use of new type quail and pheasant brooders; construction of a bait casting range; a trophy show which attracted 10,000 visitors; a large winter feeding program; removal of 2300 catfish from the Macbeth Evans Glass Factory and restocking them in nearby waters; affiliation with the Monongahela Valley Rifle League."

With a program like this no wonder the Charleroi boys really "went places" in 1938. More power to them!

Squirrels are guided in their leaps from branch to branch and tree to tree by their tails. The name squirrel comes from the animal's tail. It is derived from the Greek "Skiouros," which, in turn is taken from "Skio," meaning shade, and "Oura," meaning a tail. Literally, therefore, the squirrel is an animal shaded by its tail. This refers, no doubt, to the animal's appearance when sitting up.—*From The American Wildlife Institute.*

Five thousand herring gulls have been marked with brightly-colored bands supplied by the U. S. Biological Survey to the Linnaean Society of New York, the National Association of Audubon Societies, and the Northeastern Bird Banding Association, in furthering a cooperative study of the migration and other habits of the birds.

MY SPORT

The shadows were long as the sun went down
And the wind was soft on my face,
As I made my way from the hills to town
At a slow, deliberate pace.

Day long we had roamed my setters and I,
In search of a shot or two.
We had our chances, passed them by,
To watch grouse as they flew.

I had fed those birds when the snow was deep.
Observed them with a thrill.
Today they were my birds to keep
And not my birds to kill.

I'll not give away my favorite gun,
Nor sell my hunting togs.
I'll go each fall and have my fun,
Watching my birds and dogs.

C. Gordon Krieble.

The sage grouse was discovered by Lewis and Clark above the headwaters of the Missouri River and on the plains of Columbia. They named it "cock of the plains" and gave the first written account of it.—*From The American Wildlife Institute.*

A great many wild geese were observed following the Susquehanna waterway this fall. A large flock of over a hundred landed on the river opposite Harrisburg on October 22 and left early the morning of the 23rd. Another flock of about thirty was also seen over Taylorstown on October 20. They were apparently confused and without a leader.

In most species of birds the males wear the bright feathers and the females wear very humdrum garb. The Phalaropes, a group of shore birds, reverse this procedure. Phalarope females are very brightly colored—and the males wear drab feathers. Not only that, but the males take care of the eggs while they're hatching and even tend to the young after they're born.—*From The American Wildlife Institute.*

SPORTSMEN'S QUERIES

(Continued from page 14)

BOY WITHOUT LICENSE ACCOMPANYING HUNTER

Q. Is a hunter allowed to take a man or boy out with him while hunting all day, the man or boy having no hunting license? Please answer in the Game News.
S.S.—Eynon, Pa.

A. A person without a hunter's license may accompany a licensed hunter if he does so merely as a spectator and does not in any manner participate in the hunt. He may not, without a license, carry any equipment or game, nor may he drive or chase game for a licensed hunter to kill. His function must be that of an observer only.

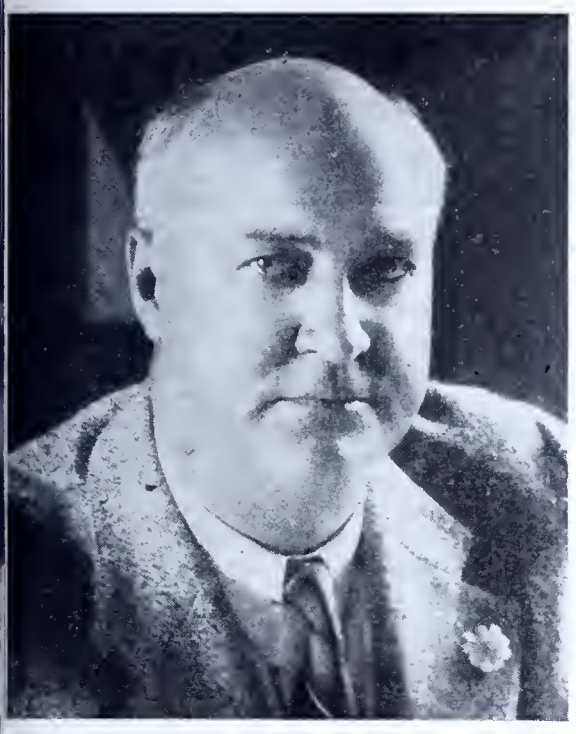
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KEEPING MEXICAN RED BIRDS, OR CARDINALS

Q. Is it permissible to keep Mexican Red Birds in cages here in Pennsylvania?
F.P.A.—Wilkinsburg, Pa.

A. No, not if these birds are of the same family as our native Cardinals. The Game Commission will not issue a permit for their possession. The bird usually referred to as the "Mexican Red Bird" is closely related to our native Cardinal, and its possession or sale is unlawful.

Charles Nielsen, Venice, Ohio, was fined $1,500 and costs by the Federal Court at Toledo, Ohio, for conspiracy to violate the Migratory Bird Treaty Act by placing feed or bait for wild ducks on a commercial hunting marsh that he and several other men operated near Lake Erie. He was sentenced to a year and a day imprisonment, but this was suspended by the court upon payment of the fine and costs. The defendant, however, was placed under probation five years and ordered to report monthly to U. S. Game Management Agent Fred Brint, Sylvania, Ohio.



CHARLES G. STONE

Nearly 250 ardent sportsmen from all over the state joined hands in paying splendid tribute to Charles G. Stone, of Greenville, former Secretary of the Pennsylvania Game Commission at a banquet sponsored by the Mercer County Sportsmen's Council. Such a gathering may well be considered a record in view of the fact that a blizzard made driving extremely hazardous for those (and there were many) who had to travel long distances in order to attend the ceremony. Howard Stewart, of Clearfield, former Member of the Game Commission, was toastmaster—a duty he performed most excellently. The meeting, despite its pronounced sentiment, was not without its share of humor and none enjoyed it more than Charlie Stone himself.

A veteran sportsman for well over a quarter of a century, he has given the best part of his life in the interests of the sportsmen's fraternity, and although handicapped by ill health for the past six or seven years he is no less active now than he was when he left the service of the Commission in 1932. Whenever a new conservation movement is started, invariably you will find that Charlie Stone was one of the first to have his trowel in the mortar. It was he who took one of the first steps in behalf of the Pymatuning Reservoir and Waterfowl Sanctuary.

Time and space does not permit the recording of the many fine things which were said about him at the meeting, but the fact that the inclement weather did not dampen the ardor or enthusiasm of his followers is testimony enough of the high esteem in which he is held. It is hoped that it will be but a short time before he will be able to throw off the cloak of illness and enjoy excursions afield once again.

Aside from numerous officers of the Pennsylvania Federation of Sportsmen, particularly the Northwestern Division, and the various heads of the affiliated clubs of Mercer County, there was in attendance the Hon. John M. Phillips, grand old man of conservation; Charles French, Fish Commissioner; Leo A. Luttringer, Editor of the PENNSYLVANIA GAME NEWS; John Mock, Outdoor Writer for the *Pittsburgh Press*; local game and fish protectors and numerous individual club members. At the close of the program the Mercer County Council presented Mr. Stone with a beautiful silver tray, upon which will be engraved within a Keystone, an inscription bearing tribute to his untiring efforts in the interests of wildlife.

Pheasant plays "possum." During the past season a gunner, near Kulpmont, shot a nice cock bird and placed it inside his coat while he continued gunning. A little later he met a friend and bragged a little about the extreme size of the bird. The friend raised him one—so they decided to compare their birds. As the first gunner drew his from the pouch—the cock suddenly came to life and flew away—to the accompaniment of a lot of beautiful words.

The wife said, when her husband gave her a new skunk coat for Christmas, "To think such a beautiful coat should come from such a low smelling animal." The husband replied, "My dear, I don't expect thanks but I do demand respect."

Make a practice of asking the farmer on whose land you are going to hunt, to go with you. If he cannot go, ask the farmer's boy. The chances are you will receive an invitation to return there to hunt, if this simple courtesy is shown.

It isn't logical to believe that wildlife has any better producing machinery than the natural habitat. The native equipment for production of game, fur and fish, is the land and what grows on it. That is the equipment we wreck and then try to substitute one shot pallatives to correct a malady that is deeply basic in our misused soil.

Over 300 sportsmen from Bucks and Montgomery Counties recently attended a shooting match held by the North Penn Fish, Game & Forestry Association. The main prize, which was won by R. Wimmer, of Riegelsville, was a large buck from the Trexler Game Preserve.

Beavers got into the news in a big way, not so long ago, when soil conservation workers planted them in Western valleys where their dams would check the erosional appetites of tumbling streams.

But it's all an old story to the beavers, Dr. Rudolph Ruedemann and W. J. Schoonmaker of the New York State Museum point out. (*Science*, Dec. 2) Their field studies indicate that for thousands of years these dam-building animals have been acting as important geological forces, not only in slowing down the erosion of soil but in actually building it up. Many of the flat-floored creek and small river valleys in the East, sites of some of the most prosperous farms, represent filled-up ancient beaver ponds.

Science News Letter, December 31, 1938

A banded teal from the Jack Miner Bird Sanctuary was shot near Kingston, Jamaica, farther south than any bird tagged by Mr. Miner has ever been encountered.

"The Virginia commission is making strenuous efforts to secure enough deer to restock a cooperative area so that extensive plantings can be made late this fall. Through mass plantings it is hoped that the deer herds can be developed to such an extent that within a few years most of the area can be opened to deer hunting."—Virginia Wildlife Federation.



The past season was not so bad in the opinion of these nimrods. And they say there are plenty cottontails left for next season.

SCATTER LOADS



This trained otter, owned by Emil Liers, Homer, Minn., is one of the animal wonders of the world. It retrieves as well as the finest bird dog.

Apparently blinded by the recent snow storm, a large flock of migrating loons, crashed through several large greenhouses of the Florix Garden Company at North Wales. A number of others were killed or injured as they struck the electric and telephone wires in that vicinity. Still another flock alighted on a pond at Souderton. Some of the birds became stranded in the fields, and being unable to take off from land, were captured by local farmers. Gordon Krieble, of the Commission's Division of Education brought a live one along back to Norristown. The bird had dropped exhausted into the front yard of a man living along the Germantown Pike. The bird, which was injured slightly, is now convalescing in the Harrisburg Zoo.

Wisconsin permits the hunting of wild turkeys with bow and arrow only under a special license.

There are about 200 different species of wild ducks in the world. One-fourth of this number is found in North America. Some of the divers have been recovered at depths of ninety feet by fishermen's nets. The ruddy duck is one of the smallest of ducks, but his lady produces an egg as large as that of a great blue heron's.—*American Wildlife Institute.*

Moose bones are being burned and studied in an unusual scientific investigation being made at the Main Cooperative Wildlife Research Demonstration and Management Unit, supported by the American Wildlife Institute. The bones of well moose, killed by automobiles or trains, and the bones of sick moose are burned and analyzed to determine whether a mineral deficiency in diet caused illness in the ailing animals.

The startling growth of scientific research into wildlife problems is nowhere better exemplified than at the Annual North American Wildlife Conferences. These conferences, successors to the old American Game Conferences, have been held each year since 1936. The fourth annual assemblage of wildlife authorities, sportsmen and nature lovers, will be held in Detroit, Michigan, the week of February 13 under the sponsorship of the American Wildlife Institute. So instructional and educational have these gatherings become that not only representatives of various state conservation commissions but many individual sportsmen attend.

The Iowa State Conservation Commission recently announced the employment of a Superintendent of Information for the purpose of disseminating publicity and educational material pertaining to its wildlife conservation program.

Among the tragedies of the recent season was the suffocation by gas from a stove of two Armstrong County men in a rooming house in Ridgway.

John Tressler, who lives near the Blair-Huntingdon County line, claims he killed a fifty-four inch blacksnake which had wiggled onto the snow near a brush pile on which he was sitting while watching for deer.

John Collins, of Uniontown, killed a doe with three legs after a two-mile chase. He fired six shots but missed every time. He finally killed the animal with his gun stock.

While dressing a doe, Chester Aucker, of Claysburg, says that he was attacked by an infuriated buck. As evidence he exhibited a skinned leg, a missing tooth and a damaged rifle.

Clayton March, of Oak Hall, claims he was chased up a tree by a ten point buck after he wounded the animal's mate.

Miss Christine Moyer, 16, of Lebanon, killed a large doe in the region of Pine Grove Furnace.

A county agent, F. W. Myers, Sunbury, brought down a fine doe with a bow and arrow. So did Dr. Lloyd B. Knapp, of Greenville, while hunting in the Hicks Run section of that county.

After wounding a doe Ross E. Lewis, of Emporium, rushed into finish it with his knife. The animal, one leg dangling, lunged at Lewis and he found himself on its back. He was taken for a wild ride of some 200 feet before the doe succumbed finally to knife wounds inflicted by the hunter.

SCATTER LOADS

Sportsmen paid out more than $12,000,000 in 1938 for state hunting licenses and federal duck stamps, according to estimates made by the National Wildlife Federation.

Blackhead, a common disease of domestic poultry, has been discovered in wild sage grouse by the Utah Cooperative Wildlife Research Demonstration Management Unit. The disease attacks the intestines and liver of poultry. The heads of diseased birds often become so dark colored as to be practically black, hence the common name for the ailment.

Samuel Ruby, of York, shot a buck rabbit with two tusks each about an inch and a half long growing from the under jaw. Set closely together they curved upward and backward over the rabbit's nose.

A Franklin girl, thirteen, whose name is Virginia Marie Cole, made veteran hunters look shamefaced when she brought down an eighty pound doe while hunting in Warren County. Her mother, Mrs. Thomas H. Cole, shot a one hundred pounder, and her father one slightly heavier.

While at the State Game Farm in Lycoming County during the deer season, one of the Protectors brought in a doe which would have given birth to a fawn within a few days.

Harry "Duckey" Marker, of Ligonier, killed a ringneck pheasant weighing four and a half pounds during the past season.

An automobile with its occupants, and bearing South American license tags, visited Linesville recently. The party stopped at the Linesville Bakery to buy bread and to inquire where they could find the place "where the ducks walk about on the backs of the fish."—NOTE: *The carp are so thick in the spillway at the Pymatuning Dam that when people throw bread to them they form a solid wall and the ducks walk on top of them.*

"While the hunting season is virtually over there is still some game that may be gone after. Until the fifteenth of this month the nimrods will be permitted to shoot wild turkey, provided of course that they are lucky enough to see any to shoot. Blackbirds are legitimate game until January 1, as are wild pigeons, also wild duck are exposed to the gun of the wary hunter until April 10, and he who has the desire, the nerve and the luck to spot a bear can shoot at it from now until March 1."—Apollo Sentinel, issue of Dec. 13, 1907. Sent in by Frank R. Swast, Jr., Secretary, Apollo Community Sportsmen's Association, Apollo, Pa.

A Pennsylvania Dutchman from up in Mifflin County was apprehended for shooting a rabbit at night through the use of a spotlight. When asked why he had to resort to night shooting during the open season when every day was available, he said, "Well, I was up around Lewisburg the other day and the shooting got so hot I figured it was safer to go out at night."

METHOD OF POISONING RODENTS

Mr. Armand G. Langenbach of West Bend, Wisconsin, president, the Wisconsin Division of the Izaak Walton league, has a suggestion to make to game farmers and orchard owners who are bothered by rats, mice, and ground squirrels. In a recent letter to the conservation department, he outlines the following method:

"For several years I have been raising mallards, geese, and pheasants under a federal permit. Some of my experiments have been in enclosures, others in open orchards, and I found that rats, field mice, and ground squirrels created a great deal of damage to the eggs, the small birds, and also to plantings and trees.

"In order to control these pests without exposing the birds to the control measures, it was necessary to devise some way of administering control only to the rodents.

"I have a suggestion to make which has proven most successful. I have never lost a chick by rodent control measures since using this method, and have protected the seeds planted in the ground, and have had no girdling of fruit trees.

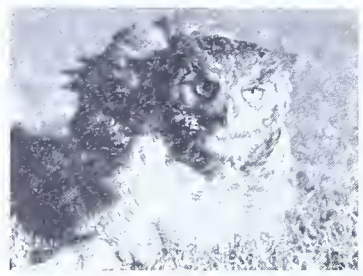
"I have taken a wooden box from 15-20 inches square and about 6-8 inches high, and bored two or three holes into this box large enough to admit rats, ground squirrels, field mice, etc. In the box I would spread grain, such as corn, wheat, oats, and even small particles of cheese until I noticed that the pests were eating the baits. Then I would clean out the grain and put poisoned material in its place, finely chopped and in the center of the box so that the rodents could not carry pieces out into the rearing yards where the chicks might pick it up. A week later I would repeat the process. In this way I destroyed all the rodent pests in the immediate vicinity."

Game farmers and orchard growers will appreciate the value of this plan. They are, however, urged to use great care in the storage, mixing, and use of poisons. It is very essential to clean up all such poisoned grain and destroy all dead rodents after they have been killed.



Coati Mundi, South American Raccoon shot in Cumberland-York County hills by Babe Eshelman, R. D. No. 1, New Cumberland, Pa. Later it was learned the animal was an escaped pet belonging to Stanley Hosmer, of York Springs.







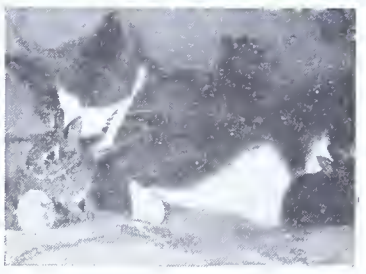














SCATTER LOADS

A two-headed snake was found by Mrs. Claude Wilson of Fairmount, West Virginia. The reptile has a dark stripe down the length of its belly—giving rise to the belief that it might have been twins except for an accident of nature.

Confucius, whose philosophy formed the basis of Chinese jurisprudence and education, had the jump on modern conservationists by over 2400 years. His teachings maintained that it was more sporting to catch fish with artificial lures and that birds should be shot on the wing, not pot-hunted.

Clinton Heller and Sterling Staples of East Stroudsburg met a bear five times recently while hunting coons in the Beaver Run section of Pike County.

Arthur N. Frantz, Game Protector of Monroe County reports the killing of a great many deer on the highways of that section. They are being chased on the roads by deer hunters, he explained.

A bear was killed by a truck on State Highway Route No. 6, three miles west of Ansonia, on October 28. It weighed about 225 pounds. —Refuge Keeper Hugh Haker, Tioga County.

Dr. C. L. Schang, of Greenville, bagged a doe but was unable to carry it home. When he returned the following day he found a big black bear standing over the half devoured remains. As he approached the bear growled fiercely and the doctor beat a hasty retreat.

Beavers are increasing rapidly in Indiana, according to a report contained in *Outdoor Indiana.*

Glenn Kinsey, an ardent hunter of Latrobe, went hunting on crutches and was successful in bagging his doe on the third day.

Records of 17 and 18 young in a single den of fox or coyotes often indicate that a young female has returned to the home of her parents to have her first litter, according to Stanley P. Young, of the Game Management Division, Bureau of Biological Survey.

In spite of the open antlerless deer season, Emerson Weaver, a farmer of Sandy Valley, Luzerne County, reports having seen 23 deer grazing on his wheatfield during the week of December 12.

Machine-gunning of a thousand elk by an outraged rancher was averted recently by appeals of the Montana Wildlife Federation.

Miss Helen Zachey, 18, of Munson, killed a doe on the first day.

Here is a poem for the PENNSYLVANIA GAME NEWS. A fellow was working for a preacher that had a big farm and all the preacher would do was hunt rabbits. The hired man got pretty sick of having rabbit three times a day, so he asked the preacher one night if he might return thanks so the preacher said go ahead, and he said:

We have had rabbits young and old,
Rabbits hot and rabbits cold,
Rabbits large and rabbits small,
In the spring and in the fall,
Rabbits tender and rabbits tough,
And thank you Dear Lord
We have had rabbits enough. *Amen.*

By FRED H. AUGUST.

Clayton March, of Oak Hall, was treed by an infuriated buck and had to shoot several times in its vicinity before he could leave his precarious position.

A hen pheasant flew into and shattered the windshield of an automobile operated by Chief of Police George D. Brubaker, of Latrobe.

A farmer near Mars, Pa., has established a haven for hunters.

Instead of the usual "no trespassing" sign he posted one that read:

"Hunting allowed on this farm. And when you hear the dinner bell ring, join us!"

David Stever, of Cassville, bought hunting licenses for himself and his two sons.

There's no story in those facts until you stop to consider that Mr. Stever is 91 and his two sons are 68 and 66!

But the story doesn't stop there. Mr. Stever took out a license for himself so he could go to the woods on the opening day of deer season and bring down a doe. He isn't content with small game, but rather goes in for the big stuff!

In conversation Mr. Stever revealed he was the owner of the first Winchester breech-loading rifle in Trough Creek valley. According to his application for a license he is 91, retired, has gray hair, blue eyes, stands 5 feet 4 inches, and weighs 105 pounds.

A woodland feud which ended in death was discovered in Dutchman's Swamp near Laporte by Raymond Moyer of Nordmont. He came upon a 200-pound deer with 13 points, which had killed a smaller eightpoint buck weighing 185 pounds, but the victor was unable to extricate its horns from the tangle.

In 1870 the passenger pigeon was considered a pest by the farmers of Michigan. The last known wild specimen that was taken was shot in 1898. The last known individual died on Sept. 1, 1914, in the Cincinnati zoo.

The American Bison, or buffalo, was one of the best natural engineers ever known. They were such good surveyors that humans seeking a way for railroad lines to cross the plains followed the old buffalo trails for many miles —without being able to improve the grade.

SCATTER LOADS

Fifty-three different species of birds were seen at Rittenhouse Square, Philadelphia, during the year 1938, including such interesting individuals as the woodcock, the rare Cape May warbler, the Tennessee Warbler and the White-crowned Sparrow, all of which were observed during the fall migration. Rittenhouse Square covers only about six acres, which includes the cement pavements and walks, and is located in the very heart of Philadelphia. Hundreds of people pass through the Square daily, and it is also utilized as a playground for children. The observations were made by Mr. Horace Groskin, Mr. John A. Gillespie and Mr. and Mrs. Quintin Kramer. Dr. Witmer Stone, Vice-President of the Academy of Natural Sciences, Philadelphia, and Curator Emeritus of Birds, vouches the opinion that since many of the birds are night travellers during their migration when they arrive in the vicinity of Philadelphia they are attracted to the lights around the City Hall Tower; it is then that they find the trees and shrubbery in the Square and naturally take advantage of them to rest and feed before continuing their journey.

Norm Bauer, of Ridgway, shot a goshawk, thereby collecting a bounty and a meal at one time. The hawk had a ringneck in its claws which became a *tasty* dish for the family table.

Bob Farwell, who held the championship last year for the number of foxes trapped, is going strong again, having caught over a hundred so far this year.

Clarence Kindt, of Pen Argyl, was busy telling his friends how he caught a live pheasant with his hands.

Mr. Kindt went hunting in the vicinity of Mt. Bethel. He took his dog along. A few minutes after being in the field, the dog pointed at game. Mr. Kindt turned around, saw the pheasant in the brush, and caught it with his hands.

Hunter Claude Reigle came upon a fox asleep in a wheat field. He started to shoot, then remembered it might be illegal to kill the animal. While sly Reynard snoozed Reigle retreated a few yards, hastily thumbed a code book and discovered the law was on his side. Triumphantly, he drilled the fox with one shot.

Somerset County school teachers, remembering, perhaps, that they once thought chasing rabbits was more useful and enjoyable than sitting behind a student desk, took steps to make the hunting season more bearable for their pupils.

The teachers, attending the annual teacher's institute, adopted a resolution calling on county school officials to schedule the 1939 institute for the first week of hunting season. Then, they said, they won't have so many boys playing hookey so they can be out in the fields.

S. C. Bollinger, 84, of Reeds Gap and Clay Howard, 80, of Port Royal were among the nimrods taking to the fields on the first day of the small game season.

There are so many wild geese in Louisiana that the Department of Conservation fears unless their numbers are decreased the state marshes will be completely eaten up in a few years.

A gas proof chamber for dogs and other small animals has been devised as a result of British pet owners' concern for their animals in the event of an air raid.

A white bison bull, an animal as rare as the Sacred White Elephant of Siam, is an inmate of the National Zoological Park. The albino animal was born on the National bison range near Moiese, Montana, and was presented to the zoo by the U. S. Biological Survey.

In one month, 764 Dall sheep were counted by rangers in Mount McKinley National Park along the highway. They were migrating from their winter quarters to the main Alaska range.

A hunter from Lehighton "killed" the same rabbit twice. Said he, "I shot a bunny, stuffed it in my coat and continued hunting. Saw another and was about to shoot when the dead one in my coat jumped out and headed for cover. I 'killed' it again."

Sportsmen have almost developed a language of their own in designating groups of particular animals and birds. For instance, it would be high treason to refer to a bunch of partridges. One should always say a covey when referring to members of the partridge family.

Then there is a nide of pheasants, a wisp of snipe, a flight of doves, a muster of peacocks, a seign of herons, a brood of grouse and a plump of wild fowl.

Of course there is also always a stand of plovers, a gaggle of geese, a bevy of quail, a cast of hawks, a skulk of foxes, a pack of wolves, a sleuth of bears and a gang of elk in the well-informed sportsman's dictionary.—*From The American Wildlife Institute.*

The snowy egret, protected in Canada and the United States for many years, has begun to migrate to the swamps and marshes of Southwestern Ontario. One fully plumed bird has made his headquarters the ponds around Jack Miner's bird sanctuary near Kingsville, most southerly town in the Dominion of Canada.

The snowy egret is as spotlessly white as its name would indicate. Its graceful plumes, with their delicate feathers, hang over its back. For years egret plumes were worth their weight in gold for making hats for ladies of fashion. So valuable did their feathers become that hunters nearly wiped out the birds.

About 25 years ago the Audubon Society in the United States, realizing how near extermination the snowy egret was, persuaded the federal government to enact legislation forbidding egret hunting. As a result the bird is actually on the increase.

The National Parks Association is agitating for the establishment of a national primeval park system to include the great national parks of the West and the Smokies, according to James A. Foote, Executive Secretary of the Association.



BIRD BANDING—By Col. H. P. Sheldon

In *Country Life & The Sportsman*, November, 1938

Doctor Frederick C. Lincoln, of the Biological Survey, is the Federal Government's migratory bird traffic officer, although that is a descriptive rather than an official title. He thinks it's the most fun in the world to trap a live bird, put a little aluminum garter on its leg, and release it unharmed. He has bird banding stations scattered over the length and breadth of the continent where other enthusiasts are engaged in similar activities. Altogether, Dr. Lincoln and his assistants have initiated 3,000,000 birds into the ornithological Order of the Garter, and because of it we have come into possession of a vast amount of knowledge that is of great practical benefit to ourselves and to the birds.

When, in 1934, the Survey was given money and means to start a great national system of waterfowl refuges, the bird banding records and mapped flyways showed exactly the locations where these refuges should be established to be of greatest usefulness. There are many other matters discovered, or learned about, through bird banding that are of practical value to all of us. There are many curious and incredible things disclosed, too. The little aluminum band confers upon its feathered wearer no immunity from accident or sudden death. Many of them are shot; many die from other causes, and some are re-trapped in other banding stations. In most cases the bands are recovered and returned to the Survey as requested by the legend each bears, and it is from these returned bands that Dr. Lincoln and his assistants get at the secret of the flight habits of the birds.

Here are a few of the instances of bird flights of more than usual interest:

A great blue heron banded at Hat Isle, Lake Huron, on July 1, 1936, was killed at Pinar del Rio, Cuba, on January 11, 1938. Another heron banded on June 25, 1937, at Hog Island, Wisconsin, was liquidated in November of the same year at Belize, British Honduras. A mallard personally banded by Dr. Lincoln at Browning, Illinois, on November 18, 1922, successfully ran the shotgun gauntlet for fifteen years and ten days, and was killed at Beardstown, Illinois, on November 28, 1937. Another mallard banded on Cuivre Island, Missouri, February 23, 1923, was shot August 15, 1937, at Peace River, Alberta. There are other records of mallard ducks that lived ten years or so ofter banding—proof conclusive that we don't shoot at every duck, or else (and a horrid, incredible alternative it is) that we don't hit every one we shoot at. No. B-691900 was a redhead who must have had an adventurous career. She was banded at Ithaca, New York, on April 18, 1926, and the advantages of university training kept her out of trouble for nine years, when she was trapped again on Thief Lake, Minnesota, on April 29, 1935, and awarded a new band. In October, 1936, the old girl was shot away up on Lake Manitoba. A greater scaup duck, banded at Mohler, Oregon, on December 23, 1926, was re-trapped and released at the same place on March 3, 1927; again on February 17, 1928; again, and at the same place, on January 3, 1935; and again on January 5, 1938, and so far as is known is still sound of wind and wing.

A dowitcher banded and released on Cape Cod on July 31, 1935, must have found the experience alarming, for he turned up only three weeks later at Pointe-a-Pitre, Guadaloupe Island, 1800 miles away.

A laughing gull banded at Cobb Island, Virginia, on July 15, 1937, was caught with a fish hook six months later at Cristobal, Canal Zone. And so it goes through 175,000 bands that have been returned to Dr. Lincoln out of the 3,000,000 attached to the birds. Each of these 175,000 circlets brings in its story of travel, of adventure, and usually of the grim spectre that stalks us all one by one and writes the last line in our dossiers. They lay bare the secrets of migration to our eyes with scientific exactitude, and disclose its mysteries, only to leave us with the realization that this strange and beautiful phenomenon is a great deal more wonderfully mysterious than we had ever imagined.

FOX HUNTING NOTES—By W. Newbold Ely, Jr.

Running Fits

There have been so many inquiries regarding Running Fits, and so many unnecessary and conjectural outpourings on the subject that it seems timely to sum it all up with one sentence. Practically all authorities agree that running fits or hysteria are caused by a calcium or mineral deficiency which can be brought on by a hookworm infestation or according to a few scientists by a germ. All agree that feeding meat, bones and milk help to bring up the salt content of the blood, and thus correct the condition responsible for the fits.

Tumors and Cancers

Some months ago we referred to the work which the scientists Whitney and Strong were doing at the Yale Medical School, and Dr. Lentz at the Veterinary School at Pennsylvania, on tumors of dogs. The response to that paragraph was most gratifying in the animals sent these gentlemen, but more dogs are needed, and everybody should pass the word along, and keep their eyes open for dogs with tumors. Such patients will be treated free of charge, and the results of these different treatments to date have been most gratifying. Of course back of it all lies the close connection between such tumors and cancers, and all who send in dogs will not only be helping their own pets to recovery, but will be automatically contributing toward the fight against the dread cancer itself.

Tatooing Registration

This department has long thought that it would be an excellent idea if each dog owner had a registration number tatooed in his dogs' ears, this number to be issued by his state with say the abbreviation of the name of the state and a certain number on the principal of automobile licenses. If the owner wished he could in addition use his own code numbers in one ear. Owners of a large number of hounds could have a different serial letter, as in our truck licenses, and pay a fee for a pack instead of for an individual. Such a plan should help to cut down the number of stolen dogs, and eliminate the bother and insecurity of dog collars. If a dog was sold the registration number would be transferred at the state headquarters to the new owner,—just as the license number stays with the car in England and even clear down through its jalopy days. The tatooing would be done by city officials or game wardens, or kennel men with license privileges. In last month's Scribner's a State Police article mentioned that in "New Jersey and Massachusetts farmers are assigned numbers which they tatoo onto the wings of their chickens."

Until this Utopia is reached hound owners may wish to still have their hounds carry collars and name plates, and in this connection I find that very serviceable hound collars 5/8" wide can be had at 17 cents each and brass plates with name, address telephone number and license number made in quantities for 15 cents, the two rivets for each plate come to 1/3 of a cent.

Tatooing

In the September issue we again advocated tatooing all hunting dogs and hounds, and pointing out the advisability of a registeration bureau in each state allotting numbers or letters to the respective owners. *The Readers Digest* has commented on the increasing racket in stolen dogs, with actual farms being established to hide them on. A collar and license are not only of no protection against a thief, but collars often are actual handicaps to hunting dogs and some have even been choked to death when caught in fences. The tatoo mark stays with the dog through life, and in each community the tatoo mark of the local hunt could become as well known as a local brand in the West.

THE MAIL BAG

"IN one of the recent issues of the PENNSYLVANIA GAME NEWS I noticed an article on the efforts of a local group to slow down the increasing numbers of crows. I accordingly thought you might be interested to know that much good work in this connection was again done in this province this year.

"Two campaigns for slowing down the crow were in progress. The first is known as the Crow Egg Campaign. Under this plan the Association selected thirty schools located in marsh areas where ducks and other waterfowl breed. In each case the teacher was asked to enroll the students in the egg collecting campaign and agree to certify as to the number of eggs turned in. The children were paid two cents per egg. Before starting on the campaign we sent to each teacher a small account of the activities of the crow and a short article telling the kiddies how to collect the eggs and what cautions to use so as not to destroy or molest any other birds' nests or expose them to the predators whose eggs they were trying to take.

"You will be pleased to know that we were able to have Ducks Unlimited (Canada) join in this contest and assume one half of all payments made. The contest closed a few days ago with 8,256 crows' eggs having been accounted for.

"The second campaign addressed to shooters provided for the payment of 5 cents per pair of feet when turned in to the crow control office. Approximately 15,000 crows' feet were turned in and the Government of this Province put up what money was necessary. Each time a shooter turned in fifty crows' feet he received a draw ticket as well. This draw ticket gave him a chance of winning more prizes at the end of the season. Some $400.00 was in the pot. The first draw was for $50.00, the second for $45.00, the third for $40.00 and so on down to a prize for $15.00. Then there were several at $10.00 and several at $5.00. This portion of the campaign was sponsored by Ducks Unlimited (Canada) which corporation provided the necessary moneys.

"This being the first year that two such competitions were run together, considerable doubt was felt at the outset as to the results that might be accomplished. It is apparent that great results can be expected next year—even greater than will be accomplished if crows are banded and released with money values available for each banded crow shot.

"From the above you can see that our sportsmen are doing their best to curtail the activities of these ever increasing predators in the duck breeding areas."—(signed) Ed. B. Pitbaldo, Past President, Winnipeg, Mantitoba, Canada.

"This is to voice a protest, in the name of humane practices and in the name of sportsmanship, against the use of utterly inadequate firearms that are being used in hunting deer.

"As you no doubt know I have been associated with a large sporting goods house for many years and am in a position to see and know what some of the boys are using—a lot of them are unfit for this purpose. There is no point in going into a detailed discussion on the ballistics and merits of the various cartridges; you know as much about that as most any one else. The point is that there is no law to prevent people using such weapons as .22 rifles and their ilk.

"Yesterday there was an arrogant person of Italian extraction in the store buying cartridges for an old worn out Remington .22 rifle. He asked for .22 longs. He boasted about almost getting a deer last year and made it known that he intended to get one this year. When I asked what kind of a rifle he used he proudly pointed to the old .22 rifle. I tried to explain that it was very wrong to use such a weapon on deer but he was adamant and resented my suggestions. This is only *one* instance in hundreds.

"You will recall that I prepared an article which appeared in the GAME NEWS last year which pretty well covered this point. I received many commending comments and letters which leads me to believe that the sportsmen of this state want to see humane weapons used on our big game. I further believe that these splendid people would strongly support reasonable legislation designed to correct this evil.

"I am, therefore, convinced that the time has come to do something about it and, therefore, respectfully suggest that the Board start now to draft a bill along these lines—also a campaign of propaganda or *education* concerning same, so that when the legislation meets again it can be presented with pressure enough behind it to cause its enactment."—W. D. Perry, Blawnox, Pa.

"My dear Mr. Biddle:

"As a resident of Wallace Township, Chester County, I am writing to ask your help before next year's hunting season starts.

"The month of November is made hideous to all country dwellers by the influx of hunters mostly from the neighboring towns and cities who invade our woods and kill all of our rabbits, quail, pheasants and raccoons on land which is carefully posted.

"They endanger our lives and the lives of our domestic animals with their reckless shooting and they have decimated our game.

"This year the danger from highpowered rifles in the hands of inexperienced hunters was terrible when the deer season opened. There was a herd of 1 buck and 6 does that lived all summer in some evergreen woods near us, watering at the Indian Run. Not one of them survived after the six day open season. They were all shot including the buck, by a group of men who called themselves "sportsmen" who surrounded the woods, drove them out into the open and shot them down as they emerged. It did not happen on our place or I would have had the men arrested but on an abandoned farm across the road from our woods.

"As you are the head of the Game Commission I am appealing to you to try to save what remains of our wildlife in the northern part of Chester County. The only small animal surviving in any numbers is the skunk."—Mary Grier Bartol, Glen Moore, Pa.

"Dear Miss Bartol:

"This is to acknowledge receipt of your letter of December 9. I appreciate your interest in wildlife and your desire to conserve the birds and animals of the fields and woods of Chester County. This is exactly what the Pennsylvania Game Commission has been doing since it was established in 1896, by enforcing laws protecting wildlife and allowing only limited hunting seasons and bag limits each year.

"When you consider that game in Pennsylvania was practically shot out in 1900 while today the state abounds in deer, bear, rabbits, squirrels, wild turkeys, ruffed grouse, ringneck pheasants and quail in addition to the fur bearers—racoon, opossum, beaver, mink, skunk and muskrat, it is evident that the work of the Game Commission in protecting and restocking has been successful.

"Since 1913 all of the money expended in this work by the Commission has been obtained from the sale of hunting licenses and special permits, and the collection of fines. In other words, the hunters have made possible the great program of wildlife conservation that is in effect today. Every year, thousands of rabbits, pheasants, quail and wild turkeys are liberated in the state to improve and increase the breeding stock. The ringneck pheasant was first introduced in the state in 1915 and is now plentiful in Southeastern Pennsylvania and other parts of the State. Deer have now become so numerous that in certain districts they have exceeded the natural food supply and have become a menace to the farmers and nurserymen.

"When one considers that deer were practically extinct when the Commission began its program of management, it makes a convincing picture of what properly administrated conservation will do. It is safe to say that the deer population in the state, in spite of an open season each year, now exceeds 1,000,000 and is greater than it was when white men first settled here.

"There is no doubt that the first few days of the hunting season have become somewhat of a nightmare to suburban dwellers, with over 600,000 licensed hunters roaming the fields and woods, but considering that they are all contributing to the cause of conservation by the payment of their license fees, is it not better to put up with a few transgressors than discontinue the work of the Commission which has been carried on so successfully for over forty years?"—Nicholas Biddle, President.

GAME COMMISSION'S WORK COMPLETELY REVAMPED

(Continued from page 5)

for conducting our business. We should be particularly watchful of routine functions and those not dealing directly with operations of the Commission, to make certain that we are keeping pace with conservation progress. Every important system in practice, unless constantly tested, should be critically reviewed at least once every year. Before approving expenditures or changing practices, we should investigate the best tested procedure of a similar nature carried on within the Commission or in other states.

12. To establish effective control that will aid in measuring results.

Orderly progress toward any objective is dependent upon measurement. It is particularly important that we have and use the most reliable unit measurements as to our results in, for example, game management, propagation, law enforcement, research, etc. These measurements should be constantly compared with the objectives which we set up at the beginning of the previous fiscal year, and with the individual work standards which we have created for our employees. In regard to those phases of our work which are intangible, or not immediately measurable, we should establish periodic objectives and reports in order that they receive the proper and necessary emphasis.

13. To direct the work of our organization according to standard policies and practices.

We must constantly study our methods and wherever practical see that standard policies and procedures are developed, currently revised, and pursued. Manuals of standard practice, bulletins, circular letters, staff meetings, and properly approved policy statements must be used in these ways and to the extent that they best serve our particular needs. This applies to all important research, management, and public relation matters. It is just as important that we keep the number and amount of such standard procedures at a practical level as it is that we develop the material itself. It can be overdone just as much as underdone.

14. To develop cooperation and teamwork.

As policies and practices are developed to meet the needs of enterprise, we are expected to study these needs carefully and make known our best thoughts as to their value. When any policy or practice is once adopted, we must give our wholehearted cooperation to make it successful, whether or not we consider it favorable as individuals. At no time must there be a publicly expressed difference of thought on the part of the Commission or its employees. We must present to the public a united front, even though there may be personal differences of opinion in the Commission meetings or in the organization. Any action taken by an individual or a division must be subordinate to the best interests of the Commission as a whole.

15. To plan for increased personnel growth and increased utility.

We should have definite plans and objectives for our own development according to the current and future demands of our field of activity. These plans should include provisions for adequate training, health maintenance, active membership in technical or sportsmen's organizations, as well as the development of good personality traits, and the securing of such knowledge and experience as will enable us to grow in caliber and in the Commission's service.

16. To retain the respect of the sportsmen by having our employees non-partisan.

America has discovered to her sorrow that conservation and politics do not mix. In many states where politics control the sportsmen's fund, contributed for the purpose of protecting and propagating wildlife, the lives of the beasts and birds have too often been traded for votes. This has not been the case in Pennsylvania, since the Game Commission was created by the sportsmen. No one can violate our Game Laws with impunity, as has often been demonstrated.

Under long established policy, which in 1937 was incorporated in the Game Law, the employees of the Game Commission are, and must continue to remain, out of politics; and as they are retained in their positions during satisfactory service, it is without question their duty to adopt at all elections an absolutely nonpartisan attitude so far as political activity is concerned. The employees of the Commission are not permitted to engage in any political activity beyond casting their own ballots on election day. Employees are not permitted to hold any elective or appointive office, nor to engage in any business or profession other than their regular work, for which they are employed by the Commission. Should an employee wish to seek a public office, he must first resign from the service of the Game Commission. Only by following this policy can we insure to the sportsmen of the State that the Game Laws are being enforced and wildlife is being protected without fear or favor in this Commonwealth.

17. To promote good-will by carrying on the Commission's activities in a spirit of friendliness.

As the work of the Commission expands it must become increasingly human, not less so. Discipline, standards and precedents become more necessary as our activities increase, but the spirit in which they are administered must be friendly as well as just. Courtesy and confidence are as important within the organization as in dealing with the sportsmen. The splendid reputation of our Commission is evidence that all of our employees have been helpful and diligent in fostering good relationships between each other, with the sportsmen and the community alike. However, in those matters of policy and public relations, it is of the utmost importance that every opportunity be taken further to impress upon employees in all positions, no matter how small or how seemingly unimportant, that their attitude toward their fellow employees in all their activities, and above all, when meeting and communicating with sportsmen, should continue to be of such nature as to promote friendliness and good-will toward the Commission. Whatever improvement our employees can bring about in this important matter of human relations will be of the utmost value to the Commission, to the State, and to the Nation.

Whenever possible the Commission should progress with the ultimate aim of being helpful, serving generously, and sincerely considering the interest of all those with whom it comes in contact. The Commission will be represented as it deserves to be if every employee adopts such an attitude. Wherever antagonistic or careless remarks are indulged in, or wherever there is an indifference or a reluctance towards being constructive, or wherever there is a lack of courtesy, the high aims of the Commission will not be realized. Selfish action toward individuals or other persons places the Commission in an improper light and destroys the harmonious relationships which must be retained. Heads of Divisions and those in any walk of life among our employees should exert every effort to emphasize this policy and have it completely understood, to the end that every individual in the Commission will continue to be strongly conscious of this important duty.

Changes and additions will be made to these policies from time to time in order that they may embody the best thought for meeting changing conditions. It is as much a part of our regular duty to study the need for changes or additions to these policies as it is to see that they are diligently carried out in all of their provisions. In studying these needs for changes it is expected that our organization will be diligent and frank in making suggestions to us.

The continued progress of the Commission is dependent upon, and is proportionate to, the ability of its personnel and individuals in other related organizations to enlarge and develop our already broad vision and comprehensive conception of these policies. We must direct all of our activities in such a manner that our policies will be emphasized thoroughly and carefully adhered to, and thus insure a complete understanding between the Commission, the sportsmen, and the men in the field. The one objective that we should emphasize is that it is our duty to promote more and better shooting for the sportsmen of this Commonwealth, in accordance with the highest standards of sportsmanship and conservation.

TUSCARORA (Continued from page 15)

than no time; then weapons were used and several were killed and wounded in the melee before they cooled off and realized that war doesn't settle anything.

Then the hatchet was buried and the peace-pipe smoked.

The dead and their belongings were collected and buried all in one large mound where they lay undisturbed for many, many years near the village of Academia.

Finally the mound was opened and examined by State authorities and some of the bones and articles found therein were taken to the State Museum at Harrisburg where they may be seen by visitors.

PHOTOS OF EXHIBIT CASES AT PYMATUNING MUSEUM, CRAWFORD COUNTY

OTHER PHOTOS WILL APPEAR IN SUBSEQUENT ISSUES

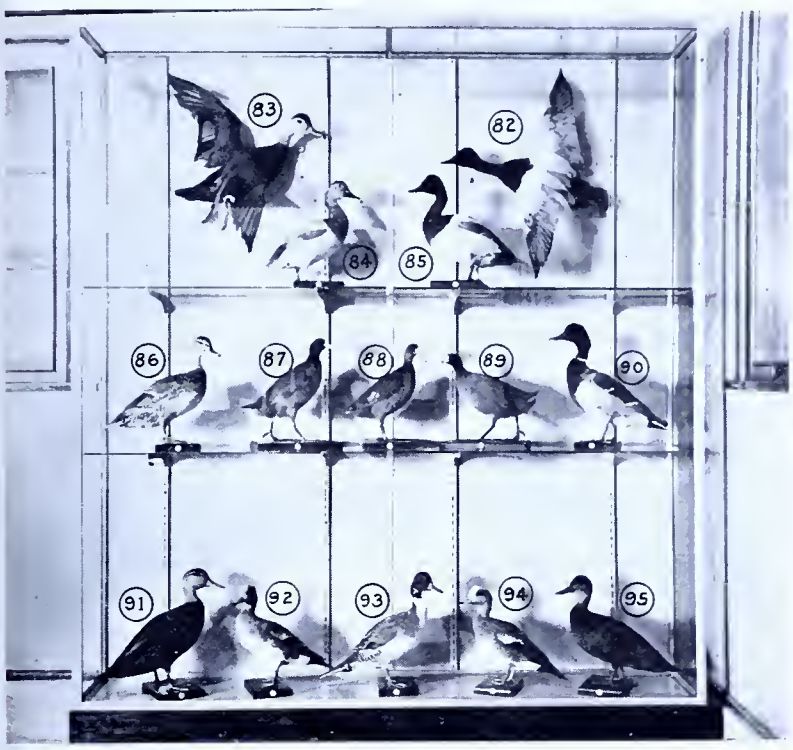


EXHIBIT CASE NUMBER 5

Specimen Number	Common Name	Sex	Season Plumage
82	Canvas-back	Male	Spring
83	Black Duck	Male	Spring
84	Canvas-back	Female	Spring
85	Canvas-back	Male	Spring
86	Mallard Duck	Female	Fall
87	American Coot	Male	Fall
88	American Coot	Male	Fall
89	American Coot	Female	Fall
90	Mallard Duck	Male	Spring
91	Black Duck	Male	Fall
92	American Widgeon	Male	Fall
93	Pintail Duck	Male	Fall
94	American Widgeon	Male	Spring
95	Black Duck	Female	Fall

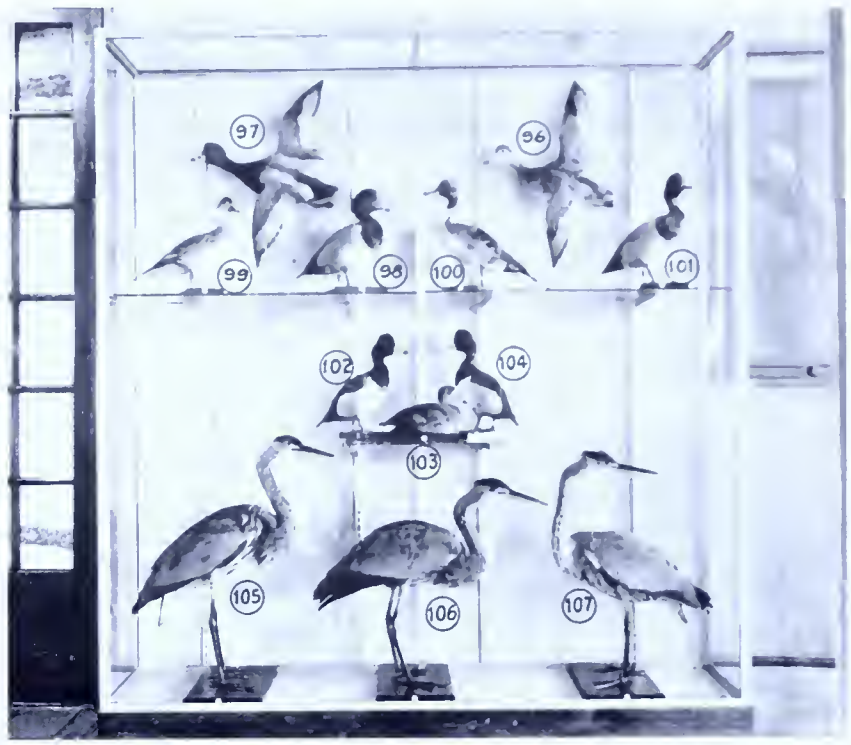


EXHIBIT CASE NUMBER 6

Specimen Number	Common Name	Sex	Season Plumage
96	Redhead Duck	Female	Spring
97	Redhead Duck	Male	Spring
98	Redhead Duck	Male	Spring
99	Pintail Duck	Female	Fall
100	Pintail Duck	Male	Spring
101	Redhead Duck	Male	Fall
102	Ring-necked Duck	Male	Spring
103	Ring-necked Duck	Female	Spring
104	Ring-necked Duck	Male	Spring
105	Great Blue Heron	Male	Fall
106	Great Blue Heron	Male	Fall
107	Great Blue Heron	Female	Fall

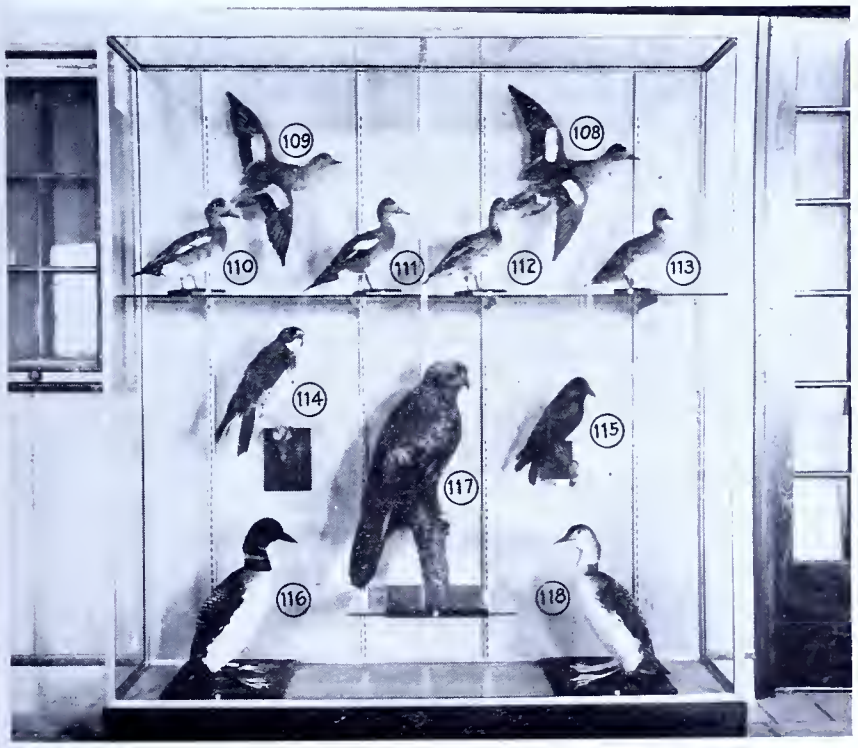


EXHIBIT CASE NUMBER 7

Specimen Number	Common Name	Sex	Season Plumage
108	American Widgeon	Male	Spring
109	American Widgeon	Female	Spring
110	American Widgeon	Male	Fall
111	American Widgeon	Male	Spring
112	American Widgeon	Female	Spring
113	American Widgeon	Female	Fall
114	Red-tailed Hawk	Male	Spring
115	Common Crow	Male	Spring
116	Common Loon	Male	Spring
117	Golden Eagle	Male	Spring
118	Common Loon	Female	Winter

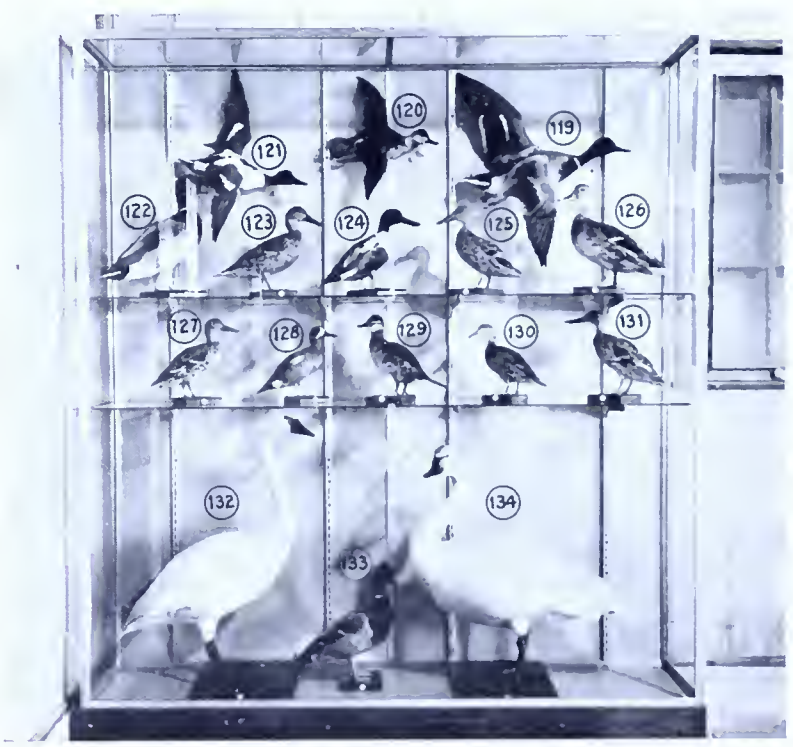


EXHIBIT CASE NUMBER 8

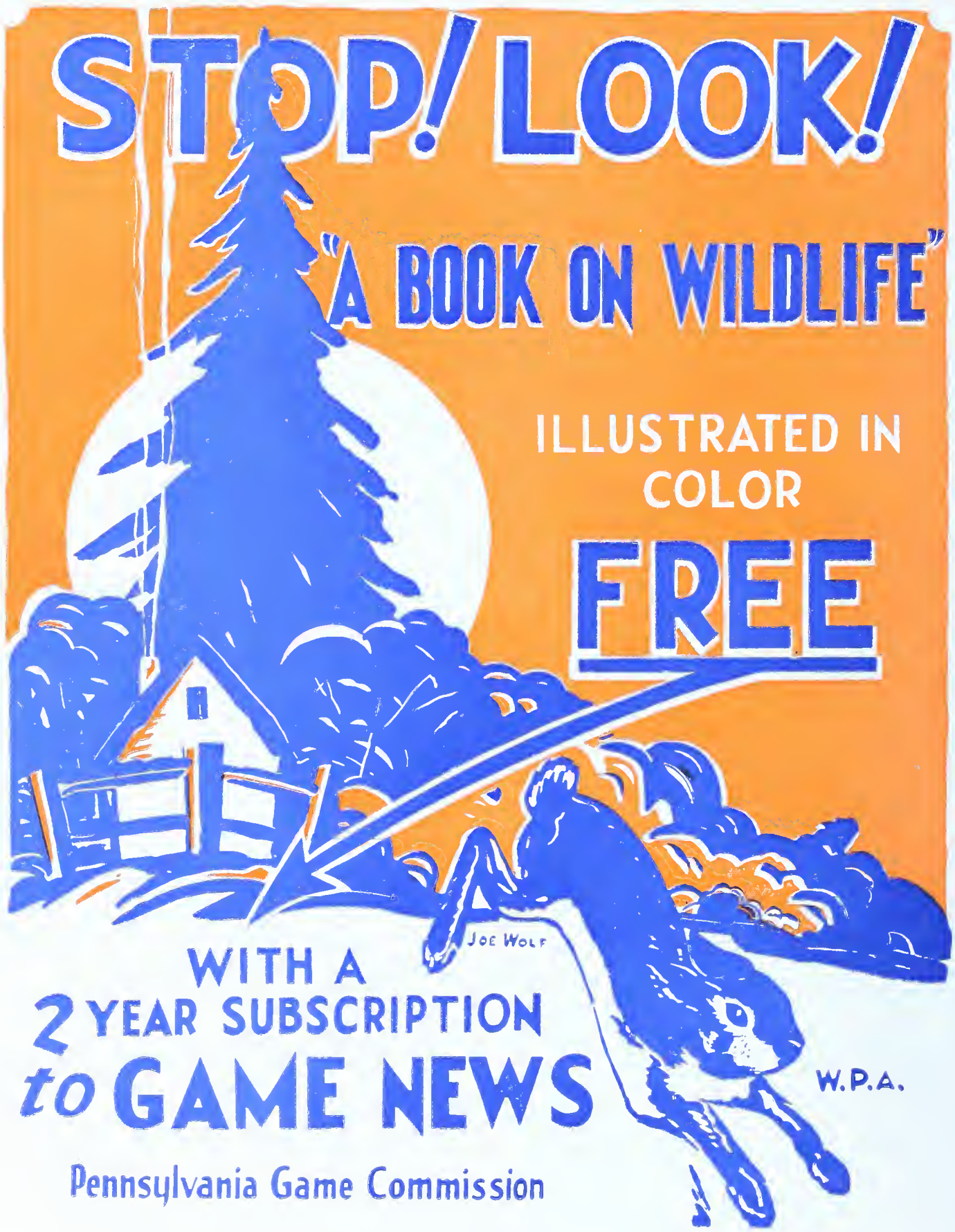
Specimen Number	Common Name	Sex	Season Plumage
119	Mallard Duck	Male	Spring
120	Ruddy Duck	Female	Spring
121	Shoveller Duck	Male	Spring
122	Mallard Duck	Male	Fall
123	Shoveller Duck	Female	Fall
124	Shoveller Duck	Male	Spring
125	Shoveller Duck	Female	Fall
126	Mallard Duck	Female	Fall
127	Shoveller Duck	Female	Fall
128	Blue-winged Teal	Male	Spring
129	Ruddy Duck	Female	Spring
130	Blue-winged Teal	Female	Spring
131	Shoveller	Female	Spring
132	Whistling Swan	Female	Spring
133	Mallard Duck	Male	Spring
134	Whistling Swan	Male	Spring

STOP! LOOK!

"A BOOK ON WILDLIFE"

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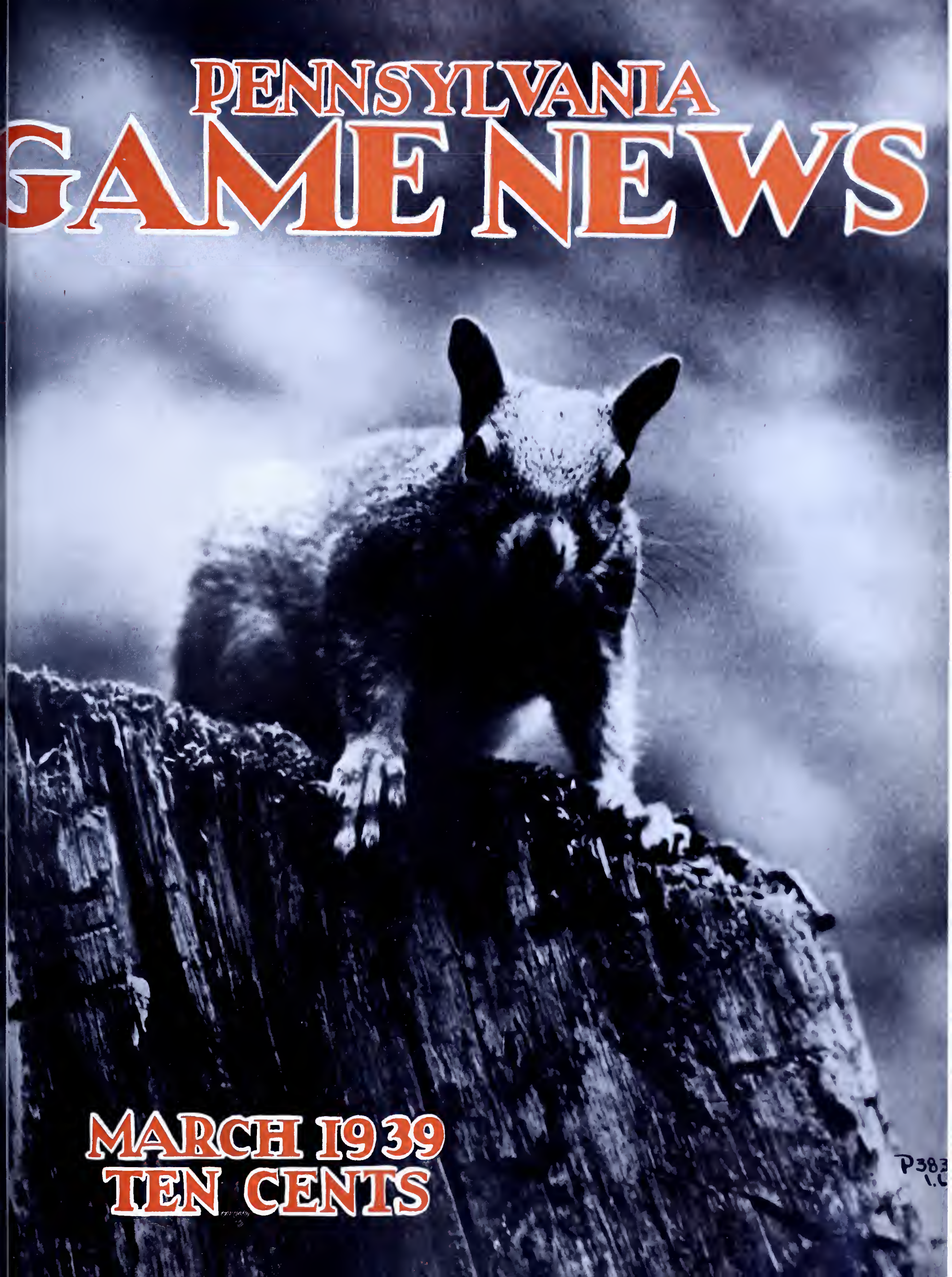
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Pennsylvania Game Commission

PENNSYLVANIA GAME NEWS



MARCH 1939
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PENNSYLVANIA GAME NEWS

Published monthly at Front and Reno Sts., New Cumberland, Pa., for Pennsylvania Game Commission, Harrisburg, Pa.
Executive and Editorial Offices, Commonwealth of Pennsylvania, Pennsylvania Game Commission, Harrisburg, Pa.

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Material for each issue should be submitted not later than the FIRST OF EACH PRECEDING MONTH.

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Entered as second class matter at the Post Office of New Cumberland, Pa., under Act of March 3, 1879.

Lamentations of Bre'r Rabbit

by J. G. W. DILLIN

Said an Old Mother Rabbit to her daughter gray,
Come listen dear child, to the things I will say;
I must tell you the sad story, for it's just this way,
Life is hardly worth living in this rapid fire day.

When I was a child, the size of you,
We played and we romped, and had nothing to do;
Our good friend the Woodchuck kept us safe from all harm,
In the burrows he dug neath the rocks on the farm.

But the burrows today are all filled up with sand,
There is not a chuck living anywhere in the land;
For the Chucker came down with a scope on his gun,
And he shot and he shot till he got our last one.

And then came the smoker with a cig in his face,
He threw down the match stick and burnt up the place;
And now the cover is so skimpy and small,
It really ain't no cover at all.

By day and by night, we go dodging around,
With eyes wide open for a fox or a hound;
If we cross the big road we will be hit by a car,
So the best we can do, is stay where we are.

When winter comes on we are clear out of luck,
For we can't dig a hole like our old friend, the Chuck;
So hardships are with us and with us to stay,
Making life just a burden in this rapid fire day.



It is a thrill of a lifetime to catch a glimpse of bruin in his favorite haunts, but this picture, taken of a bear crossing the road up Young Woman's Creek, by W. J. Kitchen, of North Bend, Clinton County, will be an everlasting memory.

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EDITORIAL

March, 1939

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THE CLUBS

SPRING HOUSE CLEANING

SPRING is the time for house cleaning. It is the time for cleaning out old bird boxes and putting up new ones. Bluebirds and robins have returned and ere long other familiar bird neighbors will have arrived to brighten our landscape and bring cheer and sunshine into our hearts. Let us not be found lacking in our duty to these useful dooryard friends, for they mean much to us both esthetically and economically.

The time also has come for farmers to begin their spring house cleaning of the countryside, and many are the fields which are wastefully burned over in order to remove brush and weeds. This practice, according to some farmers, is desirable, at least in some cases. However, there is always danger of such fires not being properly controlled.

While the preservation of top soil is the farmer's only salvation on the one hand, on the other the preservation of some cover plots in a field are essential to wildlife. Brush fires, if uncontrolled, very often destroy all food and cover along fencerows, and even spread into surrounding woodlands, laying their floors entirely bare. Instead of burning brush piles it would be far better to remove them to some unused or inconspicuous corner of a field, or to some eroded gulley, where they will not interfere with agriculture and will still serve as retreats for rabbits, quail and ring-neck pheasants.

Spring also is the time to rid game coverts of undesirable habitants. All Nature is reproducing, and consequently many hungry mouths must be fed. The feral house cat, the half-wild dog, the bloodthirsty weasel, the cunning fox—all these have many hungry mouths to fill, therefore great are the numbers of beneficial wild creatures which go into the predator's food hopper.

Every sportsman owes it to himself and to his future sport to spend a day or two now and then in familiar coverts. He owes it to himself to see that the wildlife which lives there is given a chance, and is protected from its enemies.

Spring is also the time for sportsmen's associations and other conservation groups to start planning their wildlife program for the balance of 1939. A lot of good will be accomplished if organizations systematize their work. For instance, now is the time to secure the cooperation of local landowners in a comprehensive tree and shrub planting program. Each member in the club should be given a duty to perform, such as contacting farmers, making arrangements for planting, etc. Give each member a certain territory and definite assignments to cover and your club will function splendidly.

Each member in an organization should also be given a certain territory to cover from the standpoint of vermin control, and should visit or patrol that territory as often as possible from now until next hunting season. He should see to it that the game in his section is given protection, should keep a record of the enemies of wildlife he destroys, and at the same time maintain a fairly accurate game census.

Each organization should have a committee on education, and certain individuals within the association who have the ability to speak, teach or instruct should be recruited from time to time in an effort to preach the gospel of conservation to the public schools, to the Boy Scouts, and other interested groups in the community. The trouble with so many committees is that they solicit outside aid to do the work which their very members should be doing for the good of the organization.

Clubs should plan their food and cover development projects now. They should appoint land development committees to arrange with farmers to plant many small plots of grain food mixtures when they start their activities around the first of May. There should also be a sub-committee on improvement cuttings.

Today more and more clubs are becoming interested in carrying on their own game propagating activities, and in order to promote this work the Game Commission is planning to train one man from each of its seven Game Divisions in propagation so they will be able to aid the sportsmen's organizations. There is no reason why orginizations which can provide acceptable equipment should not undertake this interesting work. Organizations which have already undertaken it would never sacrifice it even though, as often is the case, the actual management and operation rests with a comparatively few individuals.

Until the majority of members in a club realize that an organization cannot get anywhere on the "let George do it" system, and that the important events are not the social events or the annual banquets, the quicker that club will start taking its rightful place in its community.



Felling a Tree.

THE BEAVER

Pennsylvania's Most Interesting Fur-bearer

By GEORGE E. TRUMP

Illustrations by Earl L. Poole

THE beaver has often been used as a symbol of industry, and an acquaintance with its habits and work makes this fact easily understood. The thoughtful person who visits a beaver colony in its natural environment is sure to be amazed at the evidence of its persistent and intelligent labors.

Probably few people have a proper understanding of the important bearing which this remarkable animal has had upon the exploration of our vast country. In the early days of our history, the lure of its beautiful and valuable pelt led the old 'Free Trappers' away from the comfort and security of the settled sections on a quest of adventure and danger, in the course of which a chapter of Romance might be written.

The beaver is a compact, heavy bodied animal with a strong frame covered with powerful muscles. Its broad, flattened tail is bare of fur and covered with scales and the rest of its body is covered with a dense coat of waterproof fur hidden by coarse outer guard hairs. The color varies from a pale buffy yellow to a very dark brownish black, the latter color being of considerably greater value. The hind feet are very large and fully webbed, and the second toe from the inside is equipped with a remarkable double nail which is used to arrange the hair and comb out the lice with which they are all afflicted. The adult ranges from twenty to seventy pounds (Pennsylvania specimens). The flesh was considered a delicacy by the old trappers, often preferred to venison and bear meat.

When beavers move into a region they select a suitable site and begin to build a dam, in order to be assured of a sufficient level of water in which to construct their houses. Their dams are often built in a fair sized stream with a fairly swift current. They carry brush, sticks, stones, and mud and build up the breast from the upstream side until the flow of the water is checked and the level rises to the desired height. The breast is reinforced from time to time by placing logs and sticks from which they have eaten the bark, in criss-cross fashion upon the downstream site. The dams are sometimes built in series, and there will often be a number of smaller supplementary dams below the original one. Some of these dams are twelve feet in height and flood a great area of woodland, causing the loss of much valuable timber and game food.

The house is built to the surface of the water with mud and sticks, high enough above the surface to allow a living room above the water. It is covered with sticks peeled of their bark and weighted down with sod, mud and other materials obtained in and around the pond. Some of these houses are



Carrying Sticks to the Lodge.

twenty feet in diameter and extend out of the water to a height of eight feet.

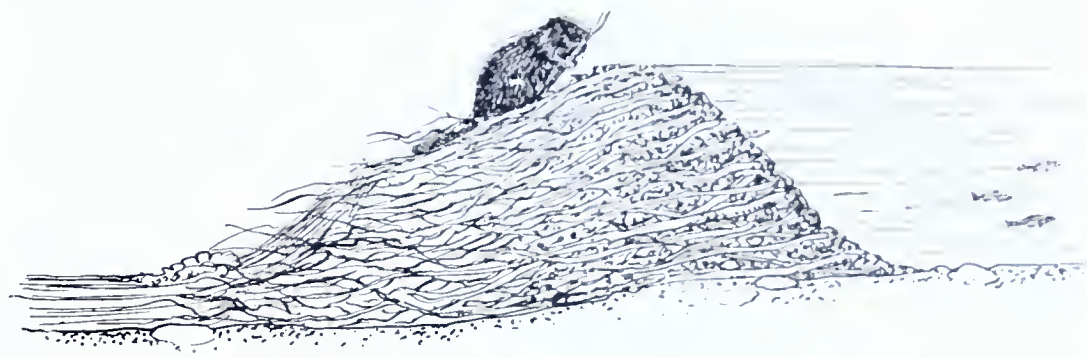
Before the winter sets in, trees are cut down and the smaller sections of the trunk and the branches are cut into lengths ranging from three to eight feet. These logs are dragged to the water's edge and stored in the bottom of the dam as a winter food supply. They seem to prefer the Quaking Aspen for food, as when this tree is available they will seldom cut any other. As a second choice they are also fond of Black Alder. At times, when the trees are a distance from the stream, they will dig canals from the dam and float the logs down to the place of storage. They have been known to build tiny dam breasts where the ground was not sufficiently level for a canal, utilizing the overflow of a spring to form a series of water levels along which they would float their logs to the dam, skidding them across each dam breast to the next level.

In cutting down a tree they will stand upon their hind legs, using their tails to balance themselves and cutting as high as they can reach, thus taking advantage of the smaller diameter of the tree at that height. Having secured a sufficient supply of food, when the weather is extremely cold they need not venture out of their dam. They simply swim out of their house, select a stick, carry it back in the house and peel and eat the bark in comfort. The peeled sticks are deposited on the top of their houses and dam breasts for reinforcement. An experienced trapper can usually determine at a glance whether or not a colony is deserted by the appearance of freshness or age of these peeled sticks.

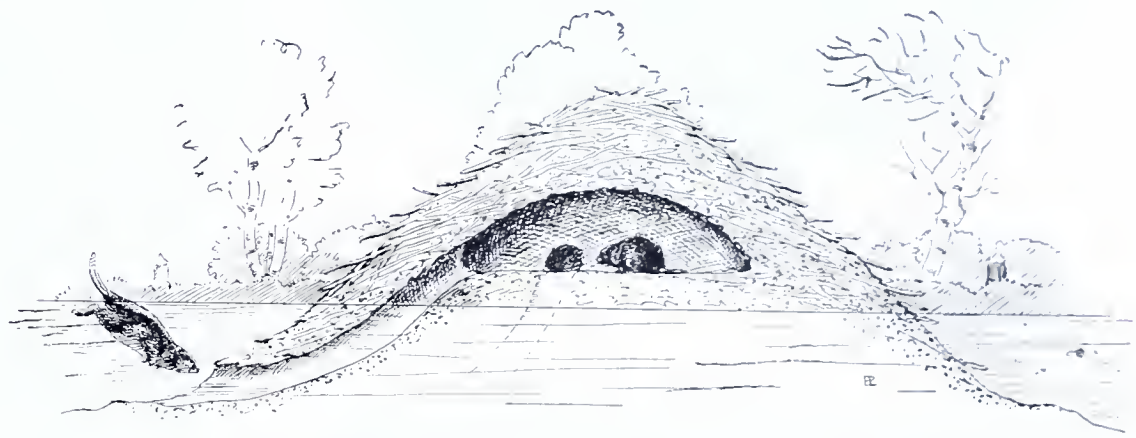
In trapping these interesting animals, trappers usually take advantage of the fact that most dam breasts have a spillway which the beavers use as a highway in travelling up and down stream. A trap set at this spot in the proper manner is a sure catch whenever the animals travel about. In swimming, the forelegs are carried tucked up against the chest, so it is necessary to place a few sticks in front of the trap just even with the surface of the water. When the beaver swims against these sticks he thinks the water too shallow to swim any farther and takes a step, placing his foot upon the pan of the trap. If these sticks are not used he swims into the trap with his chest, springing the trap and leaving nothing but a handful of fur.

Another successful method of taking beavers is to stake a branch of Aspen or Black Alder along the edge of the dam just far enough from the water's edge to make him leave the water, setting a trap under the water at the point where he leaves the water. If this set does not catch him when he goes out on the bank to eat, it usually does when he returns to the water. As is the case with most aquatic fur-bearers, the pelt is at its best in the spring of the year.

Too much praise cannot be given the Pennsylvania Game Commission for its wonderful conservation work in bringing the beaver back in Pennsylvania in such numbers that when the season was opened for the first time in many years, the writer of this article was able to take the bag limit (six), thereby spending a few weeks of pleasure and profit in the woods during a period of unemployment.



Section of dam showing mud and sod facing up stream.



Section of a beaver house with two entrances.



Mother beaver with kits.

BLACK

Reprinted courtesy *American Rifleman*



On the spot.

I FIRST glimpsed him on a cross-country fishing trip. I had been hustling along to keep an overdue engagement, when my eyes fell on his home, a nondescript and homely wad of sticks jammed into the double crotch of an ancient willow tree. One head stuck truculently over the rim of that nest. That was Judas, as I later named him.

When I shinned up that tree, three beaks rose hungrily to the sky. The fourth young crow eyed me with cold disdain, knowing at that early age that I was neither mother, father, nor friend. He was bigger than the others, clad more warmly, and in every way evidenced the fact that he was the first of the brood to chip his way out of the restraining shell.

Those four young crows went home with me. For a fortnight they made noises of contentment midway between gurgling and strangling as I fed them milk-soaked gobs of bread. Then they started to mope, and, in the space of a week, two of them were dead, the usual healthy pink of their maws having turned an unhealthy gray.

A volume on the feeding of captive birds and animals was quickly found at the public library. Following its advice, a menu of ground liver was substituted. The birds swallowed this with indifference, but when I offered liver and kidney cut in small pieces their interest perked up. In worrying these bits of meat around in the dirt while getting the right grip on them, they naturally covered them with grains of sand. Whether this grit was just what their diet demanded, I don't know to this day, but their interest in life suddenly ballooned.

The two birds continued to consume their daily rations of kidney and liver until that unlucky day when one of them, intent on giving his wings a workout, hanged himself in the meshes of the chicken-wire pen in which they were housed.

The remaining bird, a fledgling no longer, was the one whose head I had glimpsed above the rim of his nest. Now he stalked about on arrogant legs, greedily gulped kidney and liver, and laid vicious black beak on any hand that tried to catch him. He was the swash-buckling representative of his clan; the king of his limited roost.

When I trimmed his flight feathers to prevent accidental escape, he squalled at the indignity. As I finished clipping one wing he plied beak and claws to free himself, but his expression of ludicrous dismay at flying in a four-foot circle in his bid for freedom, repaid me amply for the broken skin I suffered.

This was the time of the year when whole families of crows began to occupy consecutive fence posts, and it was only a matter of time before Joaquin Wilson and I hit upon the idea of using Judas for a decoy. When we first fastened his leathern legband to a stake, he squalled like a fiend and all but tore himself in two in his struggles. Then we hit on the idea of fastening a short length of tire-chain to the legband. This acted in the nature of a clog, and Judas' furious efforts to free himself from this encumbrance, plus the most raucous voice in all crowdom, attracted the attention of every crow in Brown County at one time or another.

Many of those crows paid their lives for their curiosity, and it was only a matter of a week before Joaquin and I had to move our base of operations. The survivors seemed somewhat skeptical of Judas' continued difficulty with that clog, and refused to come within range. Coincident with this, Judas developed a streak of laziness, and refused to fight his clog with the same degree of violence and raucousness.

Our first move toward a remedy consisted of a stake driven into the ground. To the top of this was affixed a generous hunk of kidney—now considered a daily delicacy by our sable helpmate. Judas tackled this problem with considerable enthusiasm and such concentration that the meat lasted only a scant half-hour. Worse, he refused to utter a single squall while solving this problem, probably aware of the fact that other crows would also regard kidney as a delicacy.

Next we fastened a little cross-arm to the stake—a false perch which would fall away under his weight as he mounted it. It was fastened high enough above the ground so that it would swing past, and then its top end would protect the lump of meat on top of the stake. That was better, and a quarter of a kidney would occupy Judas for upward of an hour and a half. It peeved him to have that interfering stick in his way, and his outraged squawks brought many a black brother to his aid.

Whenever a strange crow would come near, Judas would ruffle his feathers and spend ten times as much time watching the invader—and cursing him in crow vernacular—as he spent on getting the morsel of food. The use of a crow call induced the same effect, for Judas would scan the sky for the expected invading visitor, and then call him harsh names as he materialized in answer to the reed-invoked summons.

One day we caged the family cat within a few feet of the crow. The immediate hostility between the bird and the feline was a living, breathing thing. Judas' yelling approached a hysterical pitch, while Tabby laid back his ears and hissed and spat in answer. When one of Judas' wild brethren pitched out of the sky to lend aid and

Judas doing his stuff.



JUDAS

By BERT POPOWSKI

succor, the morsel of kidney was forgotten as both crows heaped invective on the cat's blameless head.

For nearly an hour the two crows kept up a steady uproar. By that time their clamor had attracted nearly a dozen others, who gathered to assist with this new danger to crowdom. When Joaquin laid low the second of these newcomers with a carefully placed 100-grain bullet from his .250-3000 Winchester, the others billowed into the air, but returned immediately to continue their violent abuse of the cat.

They seemed to consider it a personal affront that one of their number had been slain by the invading cat—and at long range, too. Finally, one of the bolder ones mounted a post beside the roll of netting in which the cat was imprisoned. Joaquin shot that one, too, and the spat of the high-velocity bullet scared the cat. Its attempts to escape made the cage roll crazily about the meadow, and sent the crows into hysterics.

"Talk about your 'fool hens'," murmured Joaquin, watching the shrieking maelstrom of black birds billow about the cat.

"We've got him on the run!" they shrieked triumphantly. "Come on, gang, let's finish off this trespasser!"

Finally they tired of their diving attacks, and, watching his chance, Joaquin let drive with another of his deadly 100-grain slugs. He got a double this time as two birds carelessly overlapped while pouring violent abuse on the hapless cat.

When we moved out toward the crows they broke in disorderly flight. So intent had they been on routing that cat, that gunfire had little or no effect on them; but the appearance of humans broke the spell.

From then on Judas and Tabby became standard equipment on our crow hunts. While they engaged in terrific bloodless warfare, Judas' wild relatives would wing to the rescue and produce an uproar that a band of paint-bedecked redskins would have envied.

There was a time when Tabby broke loose and streaked away in a welter of swooping crows. Judas added his frenzied cawing to the general bedlam, but whether it sprang from a wish to have his own nip of the flying cat's back, or a mourning of his departing hunting partner, we couldn't tell.

"There goes the best part of our decoy outfit," mourned Joaquin, as cat and crows disappeared in the brush at the edge of the river. When we got home and headed in at the back door with our kill of three ringnecks, there sat a wild-eyed and bur-decorated Tabby. It was at least six miles from town that we'd seen the last of that cat, and only a crow-inspired terror could have brought it home ahead of us.

Judas poses with the cat.





And Joaquin gathers in another.

Judas, too, slipped his shackle one day, and before we realized that he was free he was in the midst of his wild relatives. We gave him up for lost and mourned him sincerely, for he had given us the finest crow shooting that we'd been able to enjoy in years. But, even as we gathered up Tabby and Judas' leg-iron, the crow clamor broke out again. The flock came straight for us, and at its head was Judas—a desperate Judas who wanted only to come back to his human friends. That aluminum band on his foot had made him a conspicuous figure in the flock, which immediately turned upon him and drove him shrieking back to us. They would surely have killed him as most wild creatures hunt out and persecute those of their species that do not conform to a set pattern of behavior or appearance.

He was a dejected figure, his plumage rumpled and disordered, as I approached him, and he offered no resistance to being caught and taken back to his comfortable roost. Once there he meticulously put every feather back in place, looking out at the empty sky at intervals, and cawing a hoarse warning as he did so. I imagine he was warning those crows that this was his home stamping ground and not to be lightly invaded.

Judas never forgot that indignity. His trust in his wild relatives was gone forever. Never again did he open wide his wings and croak a welcome as a sable brother dropped out of the sky. Instead he chose to regard each such visitor as a deadly interloper, and a savage note of warning characterized his cawing.

One day as I killed a visiting crow, the hollow-pointed 87-grain .257 bullet flung the carcass within reach of Judas, hampered as he was with his leg irons. With beak and claw he ripped at that carcass until he had doubled the terrific havoc made by the high-velocity bullet. He was, definitely, not in love with crowdom.

What Judas intended as a warning to other crows to keep their distance was more often than not misinterpreted as a warning against the cat, which was now an established part of our decoy set. When crows descended on the Judas-and-Tabby duo, Judas was the only calm one of the lot. The visiting crows would work themselves into a hysterical panic at the sight of him in the toils of some restraining contraption within a few feet of a hereditary enemy.

A few dead crows about the set never disturbed the visitors. Evidently they thought the cat responsible, and, on those rare occasions when they could make Tabby prowl about his limited quarters, their

(Continued on Page 31)



The little town of Hillsgrove is surrounded by the rugged grandeur of Sullivan county mountains.

THE COMMISSION'S LAND PURCHASE PROGRAM BRIEFLY REVIEWED

By W. GARD. CONKLIN

Accomplishments and Their Costs

DURING the 18 years the Pennsylvania Game Commission has conducted its land purchase program title has been vested in the Commonwealth, for use of the Commission, for a grand total of 592,838.1 acres of State Game Lands. These lands provide areas for game refuges and also public hunting grounds, and are distributed through 54 of the 67 counties of the State. The actual consideration paid amounted to $2,177,380.94.

In addition to this, as much as $700,000.00, or perhaps even more, was expended for various types of work incident to acquisition. Time, effort, and travel expenses are required by salaried officers in making land examinations, negotiating for options, mapping and calculations, supervision, etc., for which special cost records are not kept. To keep them would involve added expense for bookkeeping, as well as time and effort on the part of salaried officers in apportioning their time devoted to these types of work.

Cost records are kept for expense involved in making boundary line surveys, and for examining, abstracting and conveying titles, but, unfortunately, due to insufficient help the accountants have been unable to collect and furnish a complete statement of costs for the 18 year period. The best available estimate is approximately $590,000, or an average of nearly one dollar per acre.

Adding the estimated $700,000.00 for work incident to acquisition to the actual consideration paid for the land, indicates the tidy sum of $2,877,380.94, which is a close estimate of the Commission's capital investment for the acquisition of 592,838.1 acres of State Game Lands. Most of this came from the 75¢ fund created by the Legislature in 1927.

A conservative estimate of the present value of these 592,838.1 acres is $3,075,000.00. No attempt has been made to estimate the game and recreational value of this sizeable acreage because of the impracticability of doing so. This value, if it could be computed, would be most interesting.

Present Status

Almost 50,000 acres of good game territory, comprising about 142 tracts, distributed over the State are now under contract for purchase. Boundary line surveys have been completed for about 29,000 acres of this, and good progress is being made on the other 21,000 acres considering unfavorable winter weather conditions, and the fact that there are but two survey crews in the field.

Title examining, abstracting and conveyancing has been somewhat retarded during recent months, partly due to the resignation of the supervising title officer, but improved progress is now evident. Titles have been examined and abstracts prepared for about 15,000 acres, and this line of work is well under way for about 10,000 acres additional. No title work has yet been started on 70 tracts having an approximate total of 25,000 acres.

A list of tracts conveyed between August 1937 and October 1938 was published in the January 1939 issue of the GAME NEWS. Since then title has been secured for nine additional tracts totalling 4,419.6 acres, which brought the aggregate area of State Game Lands to 592,838.1 acres.

Tracts Conveyed between October 1938 and January 20, 1939

COUNTY	GRANTOR	ACRES	GAME LANDS NUMBER
Cambria	Flora D. Harkins	99.0	Addition to No. 79
Warren	Knupp and Ittle	223.8	Addition to No. 86
Indiana	Frank E. George	783.1	Now No. 153
Erie	Federal Land Bank of Baltimore	441.9	Now No. 154
	Federal Land Bank of Baltimore	135.3	
	J. Cherry	40.9	
Erie	John Wonner	224.0	Now No. 155
Lancaster	Stewart Eckert	1,986.4	Now No. 156
Bucks	Benjamin Hottel	485.2	Now. No. 157
	Total 9 tracts	4,419.6	

The Program Faces Decline

The land purchase program has been facing a decline during recent years since more than half of the 75¢ fund is being expended for development and management of existing holdings, and for the Cooperative Farm-Game Program. This, of course, means a reduction in acreage secured yearly. Another factor affecting the yearly acreage secured is that more sub-marginal farms are now being bought at a somewhat higher average price per acre than is ordinarily paid for cut over forest lands.

This year, fortunately, additional funds were made available by the Federal Government which are bolstering certain of the Commission's activities, including the acquision of lands. How the additional funds became available, and how they can be used may not be generally known, so an explanation here seems to be appropriate.

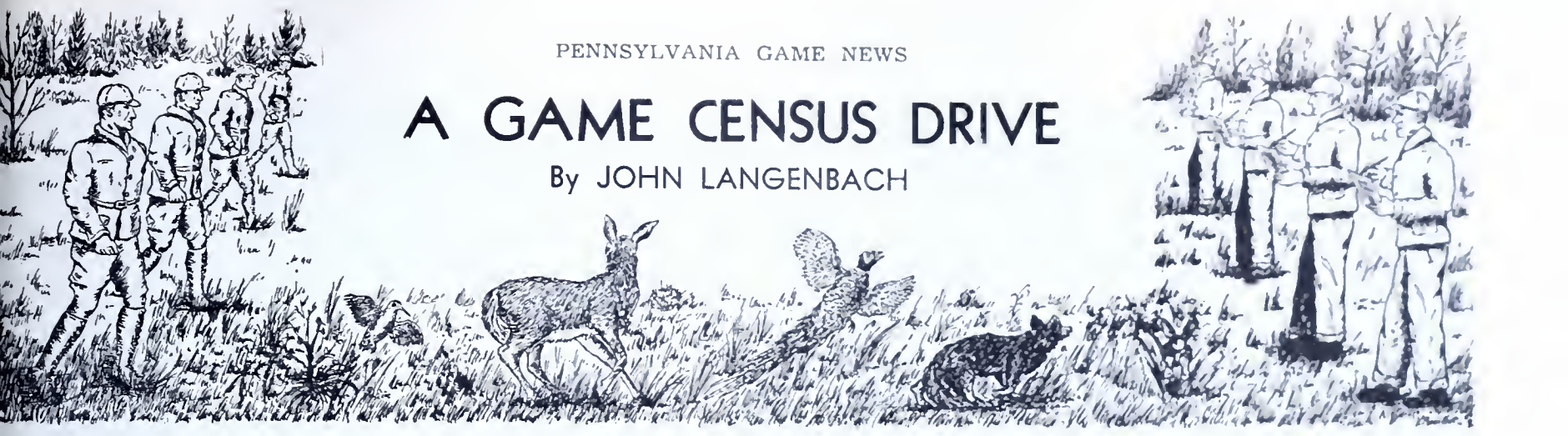
Pittman-Robertson Federal Aid in Wildlife Restoration Act

The Congress of the United States passed what is generally known as the Pittman-Robertson Act, but legally titled "The Federal Aid in Wildlife Restoration Act". It was approved by the President September 2, 1937, and authorizes the United States Secretary of

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A GAME CENSUS DRIVE

By JOHN LANGENBACH



ABOUT a month ago I learned that the officials of the Allegheny National Forest with headquarters in Warren, Pennsylvania, were going to make several game census drives during the week of December 12-16, using CCC boys as helpers.

I witnessed and participated in game census drives in the Lake and New England States, but never saw any that amounted to much. Therefore, when I had an opportunity to go to Warren to watch one of their drives, I went with my "I told you so" story pretty well in mind.

I arrived in Warren shortly after noon on Monday December 12, 1938, and later visited some of the areas to be driven in company with one of the Forest officials.

These areas are picked in various cover types throughout the forest and vary in size from 124 acres to 330 acres. Besides being spotted in various types of vegetative cover they are defined by roads, power lines, gas lines, or some artificial opening which allows clear vision all around. There are twenty some such areas on the forest of which 15 were driven this winter after the deer season.

The following morning Dr. Bennett and I went to headquarters. We talked over the drive with Mr. McCain who is wildlife staff assistant, and Mr. George Spinney, Acting Forest Supervisor. We arrived at the Farmsworth Area just as the C.C.C. boys did.

We commented on the orderly method in which the boys got out of the trucks. Mr. Jefferson, Camp Superintendent, came over and talked with us and outlined briefly what they were going to do. He said the boys were well instructed and had been told that if the drive was carried out successfully and satisfactorily they were finished for the day; if it was not done correctly they would do it over until it was completed perfectly.

Before I go on with the drive I might describe the Farmsworth Area. It is located in typical second growth hardwoods, and comprises 224 acres. It is a triangular area surrounded by a main pipe line on one side, a good C.C.C. road on the second side, and an old logging railroad and logging skid road on the third side. The area had previously been surveyed and a center line painted for the "driver control" to follow.

After the boys had unloaded and the trucks were parked, they lined up in two rows one on either side of the road, one side composed of the watchers and the other side the drivers. Mr. Jefferson briefly outlined the work again so that each one understood his task. He and his foreman then started the boys out in opposite directions and spaced the watchers along the C.C.C. road and the power line. As each watcher was placed he was instructed to tally only the game that emerged between himself and the man to his right and stay at his post until he was told to move by one of the foremen. The remarkable part of this procedure was the quiet way in which it was carried out. The only noise was the tramp of the boys' feet on the frozen ground.

After the watchers had all been placed and supplied with tally sheets and pencils the drivers were placed along the drive line. The center of the drive line was painted on the trees so that the "driver control" man would not vary and cause a break in the line. When all the drivers had been placed the "driver control" man issued orders, "Ready on the right". This message was relayed by each driver on the right side of the driver line from the center to the last man on the right side of the center. When it got to the last man he relayed the same message back to the center man. The same procedure was then carried out on the left side. The drivers were spaced close enough to each other so that it was not necessary to shout, just talk in a normal tone. After the right and left wing reported everything was ready the "center control" man announced, "Right wing advancing" and then, "Left wing advancing." These orders were again relayed by each man from the center to the last driver on each side and back to the center, and the drive was started.

Doctor Bennett, Mr. McCain and myself commented several times on the perfection and efficiency of the drivers. As the drive progressed it so happened that the left wing of drivers had some tough country to go through and part of the line started to lag. This is where I got my "I told you so" story all primed again, but I was fooled because the command came from the left wing, "Left wing holding." What happened? Well, that order moved rapidly to the center control man and he immediately issued the order "Hold right wing." I'll be darned if that whole line of drivers composed of sixty or more men stopped as if they were tied to a rope. It didn't take long 'till the left wing drivers got straightened out again and when they did they started an order to the center control man "Ready on the left." Then instead of just starting to drive again they waited until that order got to the "center control" man and he issued the order, "Left wing advancing," and then, "Right wing advancing." That line did not start to move until those orders had been relayed by every man from the "center control" to the extreme right and left wing and back to the center. Again Doctor Bennett and I commented on the perfection of the drive.

The interesting part of this procedure was that the left wing had not split open when the order "Left wing holding" was issued, but rather one part of it had lagged a few feet back of being a straight line.

The drive was completed in two or two and one-half hours. Then the watchers, still at their posts, were contacted by the foreman and brought back to the trucks. As each watcher was contacted by a foreman he turned in his tally sheet. The reason for this procedure was that in case of any alarming figures on a tally sheet or group of tally sheets the watchers could be questioned and checked before they left their post.

Finally when all watchers and drivers were back at the starting post a tally was made by Mr. Jefferson in the field to be compared with the tally sheets handed in by the men after computation. Mr. Jefferson then commended the boys on their fine work.

I don't remember what the tally added up to and it isn't really important, as this was only one area. However, I remember that the tally recorded deer, both sexes, alive and dead, snowshoe hares, cottontail rabbits, grouse and squirrels. So the boys tallied every game species that they found.

I want to take this opportunity to congratulate the Forest Service personnel, the Camp Superintendent, the camp foreman and the C.C.C. boys for what I consider the most perfect game census drive I have ever witnessed, bar none.

The point I would like to bring out is that game census drives of this type can be carried out, efficiently and accurately. The question is, "Does it take a government agency, such as the C.C.C. to succeed in a game census drive or can sportsmen's organizations do it?"

We all know the C.C.C. camps are being reduced in number annually, but the census of game species is becoming more and more a question to be solved. Can sportsmen's organizations carry out this type of census for their own benefit as well as the assistance of their state game agency?

Every game census drive that I have witnessed prior to this one were failures, and those attempted by sportsmen were complete "flops." The reason for failure in most cases was that 47 out of every 50 men decided they were boss and knew how to carry it out better than the rest. I do believe that sportsmen can carry out game census drives if they appoint leaders and argue out their differences before they get to the area in which the census is to be taken. The well known phrase, "Too many cooks spoil the broth," is the downfall of many of the good works sportsmen's organizations start but never finish. Too many of us get all enthused about doing something and work hard at it while it is a novelty, but soon we don't agree with John Jones or Bill Smith and we decide that if they want to run it their way we will quit. Just stop to think how often that happened in your own organization.



THE CHUKAR PARTRIDGE

By
CHAS. W. WESSELL

Will This Sturdy Little Foreigner Achieve Self Propagation in Pennsylvania?

THE Chukar partridge has attracted a great deal of interest among sportsmen and conservationists in recent years and this sturdy little foreigner is being seriously considered in many sections of the country as a possible new addition to our American game bird family. The Chukar is comparatively new to Pennsylvania, but because of its potentialities as a sporting bird, every possible consideration is being given to its successful introduction in this State.

Reduced Pressure on Native Birds

Pennsylvania was one of the very first states to recognize the need for successful introduction of exotic game birds of high sporting quality. The necessity for reducing gun pressure on native game birds has long been recognized by the Commission as a most important factor in successfully maintaining an adequate Ruffed Grouse and Bobwhite Quail population within the Commonwealth.

In an earnest endeavor to keep pace with the constant annual increase in the number of small game gunners afield, the Commission introduced with unlimited patience and painstaking effort such likely species as the Ringneck Pheasant, Reeves Pheasant and the Hungarian or Gray Partridge; species whose requirements for successful maintenance and increase in the wild would be sufficiently varied to preclude the possibility of their serious encroachment upon the natural food and cover of our native grouse and quail.

Ringneck Pheasant Successful

To date, the Ringneck Pheasant is the only exotic or introduced game bird which has successfully taken hold and reproduced its kind in numbers sufficient to provide shooting in Pennsylvania. This bird, whose permanent introduction in the State was seriously doubted by early conservationists, has shouldered the burden to such an extent that the present Ringneck kill in Pennsylvania is much greater than the annual combined kill of our native grouse and quail.

Generous liberations of Reeves Pheasants, a bird offering great possibilities, were made by the Commission in many counties over a period of years but the bird failed to reproduce in the wild state and has practically disappeared. After this thorough trial, propagation and liberation of Reeves pheasants were discontinued.



Pair of Chukar Partridge breeders.

Hungarian Partridges have been and are still being stocked in counties believed to be best suited to them, and though there are a few areas where it has at least held its own, the bird has not yet increased enough to permit the declaration of an open season. It is possible that through subsequent liberations in adequate numbers and aided by improved land management practices, this gamester may establish itself on a "self-supporting" basis.

Can the Chukar Make Good?

Now the handsome and sturdy Chukar Partridge, a native of India and possessed of great sporting potentialities, commands the interest

of all who seek to provide better gunning within the Keystone State.

Introductory liberations have been made by the Commission, but these have of necessity been too limited to form a basis for any permanent conclusions. Speedy in get away and flight, comparatively easy to propagate artificially, this truly beautiful game bird offers hope of splendid sport afield and tempting morsels for the table.

But can this chunky fellow meet the first prime test of all introduced game, namely—self-propagation? And can he stand up under gun-pressure? Continued liberations in adequate numbers, supported by practical land management operations, may prove that he can, but there are many factors to be given serious consideration before permitting ourselves to be carried away on false hopes.

Fundamentals of Sueeessful Introduetion

Perhaps the principal fundamentals upon which successful introduction of exotic species of game birds is based are: 1. Concealing coloration. 2. Climate. 3. Natural cover and food. 4. Topography and mineral content of the land.

It is reasonable to contend that all these conditions must be favorable to the species introduced if an adequate, shootable supply of the birds is to be created and maintained. It is also reasonable to assume that, for successful results, the introduced bird should be liberated on areas conforming reasonably close to conditions prevalent in its native habitat.

Applying this fundamental test to our one successfully introduced game bird, the Ringneck pheasant, attention is called to the surprising similarity in conditions existent in the bird's native Chinese habitat to those areas in our own State where the pheasant's natural reproduction is prolific.

1. The Ringneck's concealing coloration could hardly be improved upon for the country into which he has been introduced.
2. Climatic conditions are most favorable and the Ringneck has proven beyond doubt that he is capable of surviving our most extreme temperatures.
3. The natural food and cover conditions in the Ringneck's native habitat and the bird's principal range in this Commonwealth compare most favorably. Though there are some differences in farming practises and in certain kinds of cultivated crops, the bird has discovered little fundamental difference in his adopted habitat as compared with his native land.
4. Native to the Chinese farms, lowlands and swamps, the Ringneck thrives best in the same identical areas on this side of the world. It is also significant that the bird does not thrive in high altitudes and mountainous regions.

Chukar May Be Seriously Handicapped

Now the question is raised concerning whether or not we have the same favorable conditions to offer the Chukar partridge. As far as Pennsylvania is concerned, this may be doubtful, for first of all we are advised that the climate, topography and soil conditions existent in the Chukar's native land bear little similarity to those within the Commonwealth.

The native Chukar, we are told, inhabits and thrives in barren, scrubby, rock country, where the temperature, vegetation and soil composition is vastly different from our own. His native habitat is described as being so poor that he has earned the doubtful sobriquet of "the bird that lives on nothing."

But perhaps the most significant contrast is to be found in the lack of concealing coloration, which may seriously handicap the Chukar in its efforts to survive in Pennsylvania. Excepting when vegetation is at its height and the bird can be completely covered, a Chukar *stands out*, rather than *blends in* to the surrounding country. Where, in scrubby, rocky, barren areas the bird may, by merely standing motionless, blend itself into perfect invisibility, he unfortunately stands out like a sore thumb when attempting this defensive procedure in most of our type country, presenting an easy target for all kinds of vermin. His coloring is so out of harmony with the Pennsylvania background that he is even comparatively easy to detect in wooded areas. As the bird seems unaware of this, it has earned from some an unjust reputation for highly developed stupidity. It may be that this lack of concealing coloration alone will be sufficient to spell doom to the Chukar's chances in the Keystone State.

The Eternal Quest

Close observation of Chukar partridges, during the rearing season on the State Game Farms and during checking periods following liberations, show that even though the Chukar may be a bird that "lives on nothing" there is a very decided "something" for which it seems to be making an eternal quest.

On the Game Farms, when the young Chukars are about half grown they will proceed, when not prevented, to carry on a vigorous concerted picking on the composition board walls of the brooder houses. This peculiar operation which most of the birds join in carrying on sounds for all the world like scores of tiny riveters at work. Our Game Farm Superintendents are divided in their opinions concerning the reasons for this maneuver, beyond the apparent fact that the birds are seeking "something".

Then, following liberations, our Field Officers frequently report a pronounced tendency for constant travelling and an obvious general dissatisfaction on the part of the birds, which points to their eternal quest for "something", which quest seems to keep them on the go. It is to be hoped that subsequent propagation experiments and field studies will reveal the secret of this unknown something.

However, from what has been learned to date, it would appear that the natural food and cover conditions existent in the Pennsylvania terrain are not as favorable to the Chukar as those in his native land.

Other Factors Affecting Introduction

It is conceded that there are factors other than the four mentioned above seriously affecting the successful introduction of exotic species.

It is contended in certain quarters, for instance, that the failure of the Reeves pheasant in Pennsylvania was, to a large extent, due to the striking resemblance (to the average gunner) between the Reeves hen and a Ruffed grouse, particularly in flight and in thick brush. The possibility is suggested that as Reeves were liberated in grouse country, (which country most closely resembles that of the bird's native habitat) that many female birds were mistaken for grouse before the gun. There is likewise a feeling that probably Hungarian Partridges are frequently killed by novices in mistake for quail.

However, past experience points to the fact that the climate, soil, natural food and cover in which it was necessary to introduce the Reeves were not particularly favorable or of sufficient similarity to conditions existent in its native land. And it might also be noted that while the Reeves hen possesses harmonious coloration there is room for improvement in the concealing coloration of the male bird, against the Pennsylvania background.

The Chukar an Individualist

In captivity, when very young, the Chukar is perhaps the fastest and wildest bird propagated on the State Farms. The bird is a very

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Day-old Chukar Partridge chick.

FOOD FOR HUNGRY DEER



Over browsed cedar cut in Baldwin Creek swamp to make tops available for food.

WHITETAILS

By I. H. BARTLETT

EDITOR'S NOTE: *Pennsylvania is not the only state which is confronted with a deer problem. Michigan has been having the same headache, but it arrived at its worst stage about ten years later. The controversy concerning the best ways to manage her deer herd has been going on ever since the early seventies. Methods of control have been argued around camp fires until the wee, small hours of the morning, season after season; have been fought out in conservation leagues and rod and gun clubs, meeting after meeting, until many organizations have disbanded in disgust; and have been made a major issue in many sessions of the Michigan Legislature. Believing the time ripe to review the past, to take an inventory of the present, and to look into the future the Michigan Department of Conservation recently published a splendid little bulletin entitled "Whitetails", abstracts from which follow:*

THE early history of the deer in Michigan is in many respects comparable to that of Pennsylvania. For one thing, there seems to have been only a small amount of desirable deer habitat among the large stands of virgin timber. Deer may have been plentiful in the Lower Peninsula of Michigan where there seems to have been numerous marshes, swamps and openings among the oak and hickory uplands. However, in what is now considered deer territory the animals probably were relatively scarce.

Civilization changed the whole picture, and with the advent of agriculture in the southern portion of the state, and the creation of small openings for farms in early days, deer were attracted and found a new food supply therein. As farming increased, however, the effect was soon reversed, causing the wild areas to be wiped out. The numbers of deer killed by farmers, coupled with the reduction of wild territory nearly exterminated the animals in the southern territory of Michigan by 1870, and because that section contained excellent agricultural lands, it did not again revert to its wild state. It has continued in farms and industrial centers and the deer as a game animal has been excluded except in a few sections where they have been maintained or allowed to propagate against the advice of the Department of Conservation, primarily as attraction to tourists and other persons who enjoy seeing them. Against the advice of the Department deer were released in several other agricultural sections, and within a few years multiplied alarmingly and were soon seen along the highways. Later reports of damage began to filter in, then the war was on. Heavy damage was done before relief could be obtained and public relations were strained to the breaking point. Those who liked to see the deer wanted to keep them, and the farmers wanted them destroyed. The Department finally compromised by consenting to issue permits to farmers, allowing them to kill deer when the animals were observed doing damage.

In the northern half of the Lower Peninsula the history of the deer herd is quite different. With vast areas covered by stands of gigantic hardwood or pine, deer are believed to have been relatively scarce in primitive times. About 1850, pine logging began to produce openings in which low brush and reproduction appeared, furnishing additional food and cover. With this increase in food the herd began to build up. By 1880, openings were everywhere throughout the pine forests and food and cover was in abundance. The huge conifer swamps had passed through the same transformation. Where, in the early days, deer were forced to "yard" during the winters under big timber with little food and poor cover, now (1880) cedar and deciduous reproduction in the cutover yarding areas was growing in profusion.

By 1890 the pine was nearly gone, and soon after the hardwood was following it to the mills. So now the scene changes. Instead of having huge blocks of timber with few openings, there remained huge openings with a few small stands of timber. And so, with a reversal of

AND HOW THEY RELISHED IT



Two and one-half acres of tops completely stripped of browse in 48 hours.

Presenting Michigan's Deer Problem

conditions, the old situation of a minimum amount of desirable deer habitat had returned. Unhindered Nature would have been able to effect more normal conditions, and reproduction would have continued to grow and fill the larger openings, creating dense cover and abundant food over the areas as fast as they were cut but for one thing—forest fires became prevalent and burned over the logged areas with such intensity that much of the remaining seed was killed and no seed trees were left to continue production.

Between 1915 and 1920 the Michigan public became forest fire conscious. By 1920, areas which had been for years considered as "open plains", worthless for farming was permitted to grow up to brush. Desirable forest reproduction began to appear and to assume real value. The "cycle" was on the up-swing, the amount of deer cover and food was increasing, and the deer herd slowly responded.

It goes without saying that during early logging days venison was the only large source of fresh meat, and camps containing one or two hundred men used it as their main article of diet for months at a time. As the railroads penetrated the deer territory market hunters came in during the fall months, shipping hundreds of tons of deer "saddles" to commission houses in the cities. These same men turned to "hide hunting" during the summer, killing thousands of deer for their hides and letting the meat rot. Evidence produced at the Sportsmen's Congress at Saginaw in 1882 indicated that carcasses of more than 100,000 deer had been shipped from northern Michigan stations during the fall of 1880 by market hunters.

In 1881 the Michigan Legislature first took drastic steps to control methods of deer hunting (Previous to this date the only restriction imposed was the regulating of the length of the hunting season) by making it unlawful to kill deer when in the spotted or red coat or while in the water. The animals could be taken for food only, could not be shipped out of the state, and the use of a pit, pitfall or trap in taking the animals was prohibited. In 1887, hunting deer through the use of dogs or lights was also prohibited.

About 1890 a decline was apparent in the herd, thought to have been the result of the combined effects of heavy market hunting and the reduction in food and cover because of logging operations and fire. The decline, becoming more and more evident, resulted in frenzied efforts of succeeding State Legislatures to remedy matters through the tightening of hunting restrictions. Deer hunting licenses with a limit of five deer for a fifty cent fee were introduced in 1895. Market hunting or the sale of venison in any form, or the serving of it if a charge was made for the meal, were outlawed in 1901, and the limit was reduced to three deer; in 1905 to two and in 1915 to one. In spite of all these restrictions, however, the animals continued to decrease in numbers.

There is little doubt that during this period deer were almost exterminated in most of the deer territory. Hunting remained exceedingly poor throughout the entire deer range of the Lower Peninsula until 1920 when underbrush and reproduction began to appear in the areas and the herd began slowly to increase. By 1925 the increase had become more and more apparent and now the Lower Peninsula has probably one of the largest herds in the history of the state.

The history of the deer herds in the Upper Peninsula is similar to that of deer in the northern portion of the Lower Peninsula although the changes lagged from ten to twenty years behind those of the Lower Peninsula and were not so extreme.

In concluding this portion of his narrative the author indicates that the peak of another cycle has just been reached or just passed. He writes "Are deer again going to "hit the skids" and go away down as they have in the past? It appears that they may, as the timber in the various yarding areas becomes mature or the available food is browsed out. But what about all this talk of deer management,

WHITETAILS

managed hunting, etc.? Is it going to be a solution of our deer problems? Before management plans are discussed, let us take an inventory of what we have to work with—the deer herd, habitat, winter yarding conditions, and the deer hunting situation."

In 1927 the Game Division of the Department of Conservation was created. Inventories of the deer herd scattered over 34,500 square miles of range and studies of conditions which affect it, together with the compiling of hunting statistics, immediately assumed importance in the work program of the new organization.

The first thing the new Division did in relation to deer was to begin an inventory of the winter yarding areas, securing the cooperation of their Conservation Officers to obtain this data. The Game Division now maintains a staff of four especially trained men who investigate and map the more important deeryards reported by Conservation Officers. Michigan has nine Game Area Managers who have received similar training and who have proved to be a valuable staff auxiliary, working yards in large areas assigned to them. Under this system, the detail for which I have purposely omitted because of lack of space, 573 deeryards covering 1,984 square miles have been reported. Four hundred fifty-two of these, containing over 1,500 square miles, have been examined and classified. It is estimated that between 70 and 80 per cent of the total deeryarding area in Michigan is covered by these reports.

Inventories are also made of summer deer range and have revealed that there are abundant summer cover and food for many more deer than the winter range will carry. In a study of the situation, weather conditions are also followed carefully. In addition to temperatures during winter yarding seasons snow depths are also recorded by gauges established in the various deep snow belts throughout the deer range. These are read by Conservation Officers once a week and reported to the Lansing office by radio.

In 1929, after eight seasons during which bucks only could be taken, the Department received so many protests from deer hunters who declared that "all the bucks were being shot off" that it became necessary to obtain further information on the subject. As a result Conservation Officers in deer territory were instructed to report all the animals they observed during their regular patrols and to identify when possible the bucks, does and fawns, listing those not clearly seen as unidentified. Conservation Officers are distributed throughout the northern areas of Michigan, approximately one for each 500 square miles of deer range and all are experienced woodsmen.

An attempt was also made to obtain reports from deer hunters during the deer season as a further check on sex ratios. Some of these reports did not check with those supplied by Conservation Officers. It was found that most deer hunters were in the woods only during the one or two weeks they devoted to the enjoyment of their sport and were therefore not as competent observers as the officers; that the fawns had lost their spots, many being nearly as large as the does, making it difficult to distinguish them; and that after the first day of the season bucks skulk and hide and consequently are harder to see, while does and fawns walk freely through openings and are easily observed.

Attempts were made during 1930 and 1931 to obtain an estimate of the number of deer in Michigan. This was accomplished with the aid of Conservation officers, hunters, lumbermen and timber cruisers. In 1935, CCC aid was obtained in the conducting of deer census drives on representative areas in different localities.

During the sex ratio controversy in 1929 it became evident that some method of determining the age of bucks killed during the deer season was desirable. Records of captive deer, partially tamed deer which were allowed to run wild, and peculiarly marked wild deer had proved that the number of points on a buck's antlers was no certain indication of age. An investigation carried on at the University of Michigan by one of the Game Division personnel, using over 500 skulls and antler measurements, indicated that the beam of the antler just above the "burr" increased in diameter each year. It was determined later that this might hold true until the buck had reached his maximum development at six or eight years of age, but after that the diameter of the antler beam might decrease. From 1929 to 1937 approximately 4,000 sets of antlers were calipered each year at checking stations.

Various methods were employed to secure reports from deer hunters over a period of years but so small a number were returned, however, that in 1937 the Michigan Legislature passed a compulsory kill report law, requiring all hunters and trappers to report their take before the following February. Approximately 65 percent of the deer hunters have reported for the 1937 season.

Expense questionnaires were also sent out to Conservation Officers for distribution to hunters to acquire some record of the financial importance of the deer season. Five thousand were distributed in 1936, but only 221 were returned. Another attempt was made in 1937 when 10,000 were distributed and 578 returned.

Other research activities were conducted, including the largest deer feeding experiment in the United States—perhaps in the world—which was undertaken at the Cusino Game Area. For those interested further details of this experiment can be found in the bulletin from which this material is extracted.

With the deaths from starvation of a large number of deer in certain sections in 1930 a demand was made that something be done to relieve the situation. Two possible solutions were suggested: feeding, or removal by live trapping.

Investigation of the entire situation revealed that feeding offered only temporary relief, a remedy which, quite likely, would have to be repeated each winter. Therefore, it seemed more logical to trap the deer, removing them from one section to another. As an experiment eight traps were erected and approximately one hundred deer were removed. All deer caught were tagged with regulation cattle ear-tags, numbered on one side and stamped "Notify Department of Conservation, Lansing" on the other.

The cost of trapping and tagging on a large scale was found to be prohibitive, but the information gained through the return of tags from ear-tagged deer was so valuable that trapping and tagging have been continued when the operations could be carried on in connection with CCC or other similar projects.

Eight hundred and thirty-one ear-tagged deer have been released in the wild during the last seven years in connection with the trapping operations in certain sections. The most important information obtained through the return of these tags is the distance these deer have traveled from the point where they were tagged and released. The average distance between spots where trapped deer have been released and where they have been shot is between 6 and 9 miles, the maximum about 25 miles.

Studies were also made of diseases and parasites of deer and in 1935 a full-time pathologist was attached to the Game Division staff. The following year a laboratory was established in the veterinary building at Michigan State College and a complete portable laboratory was built into a house trailer for use in field work.

The deer herd in Michigan today occupies about two-thirds of the area of the state, or approximately 34,500 square miles. Slightly more than half is in the upper part of the Lower Peninsula while all of the Upper Peninsula or about 16,300 square miles is deer territory. Although the herd is regarded as a single unit, the differences in climate, vegetation, and other less obvious factors, make it advisable to consider the deer in the two areas separately.

The steady increase in the number of deer hunters in the Upper Peninsula since 1925 has caused apprehension about the deer. It has been feared that the heavy hunting might destroy the herd, but each succeeding season has found as many, if not more, deer than the previous year. With continued study of the situation, evidence has been found to support the suggestion that Upper Peninsula deer may be three times as plentiful as was believed to be the case only a few years ago. Instead of five deer per square mile as was estimated in 1931, census drives conducted with CCC assistance on 16 areas in four widely scattered sections produced counts indicating that 18 deer per square mile is a much more accurate figure. Reports of Conservation Officers corroborate the census findings. They indicate also that one out of every five deer is a buck and that the total deer population of the Upper Peninsula at the present time may reach 300,000. The question is, how many of the estimated 50,000 bucks are killed annually by hunters?

A review of the last seven years, for which figures are available, indicates that 40, perhaps 50 percent of the hunters get their bucks. During this period, the number of hunters has increased from a low of 21,000 in 1932 to a high of about 37,000 in 1937.

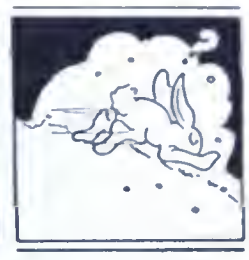
Winter crowding and subsequent starvation also offers a problem in Michigan, and a survey of wintering places indicates that not more than ten percent of the range is suitable for winter use, which means that the deer population must crowd into winter areas equal to only one-tenth of its summer range, and that the average population in the yards would be about 180 per square mile.

The deaths of increasing numbers of deer in the yards has focused attention on these areas and has made inventories of the number and

(Continued on Page 29)



SPORTSMEN'S QUERIES



By CHAS. F. STAMBAUGH

HUNTING FOXES ON SUNDAY

Q. Is it lawful to hunt foxes on Sunday with a shotgun on State-owned land or land where farmers grant permission?

R.C.S.—Portage, Pa.

A. There is nothing in the Game Law to prohibit hunting foxes with a shotgun on Sunday at any season of the year if the hunter is in possession of a proper license and displays the tag on his back. It may be possible to prosecute under the Blue Laws anywhere in Pennsylvania for the discharge of firearms on Sunday, but the enforcement of that law is beyond the immediate jurisdiction of the Game Commission. The fox hunter with a shotgun must not use dogs to hunt foxes at any time between April 1st and August 19th, inclusive.

* * *

DIGGING OUT GROUNDHOGS

Q. (1) Is it lawful to dig out groundhogs with the permission of the landowner?
(2) If a groundhog is shot and wounded, am I permitted to dig him out, with the permission of the landowner?

B.F.F.—Pittsburgh, Pa.

A. (1) Under the Game Law a landowner does not have authority to give one permission to dig out groundhogs on his property unless he resides upon and helps cultivate the land. The right to dig out groundhogs is restricted to residents of land on which these animals are doing damage.
(2) The present Game Law does not give a hunter the right to dig out a wounded groundhog, except under the circumstances above mentioned.

* * *

PICKING UP DEAD GAME ON HIGHWAYS

Q. Is one allowed to pick up a rabbit that was hit by a machine on the highway and take it home?

I.L.—Hellerton, Pa.

A. You must not pick up rabbits, deer or any other game on the highways when it has been killed by an automobile, and take it home for your personal use, as the law requires that game killed in closed season, either accidentally or otherwise, must be disposed of to a charitable agency by a representative of the Game Commission. The proper procedure when rabbits, deer, raccoons or other game are found injured or killed on the highway is to remove such game to the side of the roadway out of the line of traffic, and see that the nearest representative of the Commission is notified.

SQUIRREL WITH LUMPS ON BACK

Q. While hunting during the past small game season in the vicinity of Martinsburg, Pa., I shot a gray squirrel, the back of which was covered with large and small light-colored lumps resembling warts in appearance. They covered the outside of the fur on the back, neck, and face. The eyes were very much swollen, one being nearly swollen shut. The squirrel may have been previously wounded. I discarded it. Can you give me some information on this?

E.M.—Altoona, Pa.

A. The lumps on the back of the squirrel were probably warbles which occur on squirrels the same as rabbits. These warbles constitute the larvae of one of the botflies, which in its adult stage becomes annoying to deer and other wild animals. Evidently this squirrel did not experience sufficient cold weather to cause the warbles to drop from its skin. That condition, however, did not in any sense affect the value of the animal for food, and you could have consumed it without fear of disease.

* * *

KILLING DEER WITH KNIFE

Q. A doe is wounded in one leg by a hunter. A half hour later a man comes along in his car, sees the doe standing in the field, gets out of his car with his 1938 hunter's license tag displayed, approaches the doe with his knife and kills it. Is he entitled to this deer?

S.H.E.

A. Under a technical interpretation of the Game Law, this hunter is not entitled to the deer. The law provides that game may be killed only through the use of a legal type of firearm or a bow and arrow.

* * *

DRIVING DEER WITHOUT GUN

Q. May a person who does not have a gun drive deer or accompany a party on a drive for deer without a license?

C.Y.—Beaver Falls, Pa.

A. Any person who chases deer, or any other game, for another hunter to kill must be in possession of a proper hunter's license, whether that person carries a gun or not; and no person has the right to drive game to another hunter unless that person is properly licensed.

FLYING SQUIRRELS

Q. Is a permit needed to keep a pair of flying squirrels for pets. Is there a law against shooting them at any time?

V.M.—Millersburg, Pa.

A. The flying squirrel in not given protection under the Pennsylvania Game Law and may be killed or captured alive at any time by one in possession of a proper hunter's license. Flying squirrels legally captured may be retained alive indefinitely without a permit. There is no closed season on these little animals, although, personally, I wonder why, as they are harmless, interesting and desirable members of our wildlife family.

* * *

SHOOTING MUSKRATS

Q. I would like to know if I may hunt muskrats with a shotgun or must I trap them?

G.A.S.—Wrightsville, Pa.

A. It is strictly unlawful to take muskrats through the use of a gun of any kind as the present law requires these animals to be taken by trapping only. It is legal, however, to kill a muskrat with a firearm after it has been lawfully trapped.

* * *

CUTTING UP DEER IN CAMP

Q. Is it legal to cut up a deer in camp to eat during the open season, if the head and hide are saved and tagged?

R.L.G.—New Castle, Pa.

A. There is no objection to cutting up a legally killed deer in camp and consuming it on the premises if the head and tag of the deer are kept available at camp for inspection by an officer.

* * *

EYES OF A DEER

Q. Can a deer move its eyes?

Miss L.S.—Duke Center, Pa.

A. The general opinion among our research men, who are in position to observe deer constantly, is that a deer can move its eyes only slightly if at all. In a general way, the answer to your question is that a deer cannot move its eyes in their sockets the same as a human being, but must turn its head to change its line of vision.



Museum Group

The White-tail in Winter.

AMERICA'S NO. 1 BIG GAME ANIMAL

By STANLEY T. BOGGESS

EDITOR'S NOTE: *The deer is America's outstanding big game animal. A few years ago they were threatened with extinction, but during recent years they have made a remarkable recovery and may now be seen in many places where they disappeared many generations ago. The recovery of the deer is one of the outstanding achievements in the field of conservation. In the following paragraphs Mr. Stanley T. Boggess, a member of the staff of the "American Wildlife Institute," tells some interesting facts about deer, their habits, and what science has learned of them.*

IN the first place they have played a part in the history of mankind for many thousands of years, and in order to trace down their family tree we have to talk in terms of geological eras. The ancestor of the modern deer first appeared in the upper Eocene period. Call it about fifty million years ago if you like to deal in large figures. The primitive ancestor of the horse, about which a little more is known, dates back a very little farther. About two million years ago, deer found their way from Asia to North America over a land bridge which it is said connected the two continents at that time. Man, a comparative newcomer, had not yet made his appearance on the face of the earth. When the extensive sheets of ice known as the last glacial period were retreating from North America, the deer were here in practically their first form.

Deer were also important to Primitive Man. We may assume that from the time of Man's first appearance they played a role of major importance in human economy. The first crude records men made on the walls of ancient caves carry pictures of deer among those animals which were objects of the chase. It is hard to give an accurate date for these inscriptions but going back of them it seems certain that the Neanderthal man who lived more than twenty-five thousand years ago delighted in the chase. The deer helped supply him with meat and its skin helped to clothe him and supply the thongs with which to string his bow and secure the handle to his axe. When men reached that stage of civilization comparable with that in America when the first white men came, the deer was an economic necessity. In vast areas of this continent the Indian could not have lived without the deer.

The question arises—What prevents deer from getting lost in the woods? Have they any special sense to guide them? The deer, like most wild animals, lives in a world where he is guided by his sense of smell. It is not a special sense but he uses it so much that it is very highly developed. A human being in the wilderness is guided by sight and sound; the deer depends upon his nose. A man blazes marks on the trees which he can see in order that he may not be lost. The deer also has blazing instruments. They are the scent-secreting glands, above the hocks on his hind legs. These are called the metatarsal glands. Like most glands they probably serve a complex purpose but they are efficient trail blazers. It has been observed that when these glands are removed, the deer thus handicapped is very easily lost. It is interesting to note that the mule deer which has a high bounding gait in running, touches the ground at greater intervals than the Virginia deer, but his glands are about six times as large and potent. Thus nature makes its adjustment by one of those amazing compensations, so often evident.

How many kinds of deer are there in America? What relation do they bear to the deer of the old world? The deer of America are all distinct from the species to be found in the old world. They have the widest possible distribution and are found from the Arctic Circle on the North to Patagonia on the extreme tip of South America. The family group on this continent includes the moose, the American elk, the caribou and the common deer. It is with the three main species of the common deer that we are chiefly concerned here. Perhaps the most important of these because of its wide distribution is the Virginia or white-tail deer. They are found from Newfoundland to British Columbia and from Florida to California and Mexico. And now we come to one of those problems with which nature confronts us.

How do we classify the mule and the blacktail deer? Call the mule deer a subspecies of the blacktail and you have authorities on your side. Give the blacktail a classification of his own and shouts of approval come up from another quarter. Straddling the fence is too difficult and so we take a drive. The metatarsal glands of the Columbian blacktail are enough shorter than those of the true mule deer to identify him as a distinct species. Moreover his more generously plumed black tail is a sure means of distinguishing him from his nearest relative, the mule deer. He is particularly identified with the Columbia basin in the Pacific Northwest but has a slightly wider range in adjacent territory. The mule deer are found westward from the Black Hills through the Rocky Mountains and in the coast ranges from British Columbia to Mexico.

By what other means are the type of deer distinguished? Are the differences mainly those which only a scientist would notice? The mule deer gets his name from his large, elongated ears. The Virginia deer's ears are comparatively small. The Virginia deer has a busy white tail which he holds erect while running, displaying its conspicuous plume. The mule deer has a narrow, sparsely haired tail which it does not elevate while on the run. The mule deer's antlers are dichotomous, that is they divide equally at each fork. The branch antlers of the Virginia deer are pointed without reference to so orderly a system of prongs. The other distinctive traits of the species are not so easily noted by the novice.

Does the bounding gate of the blacktail and mule deer make them faster than the Virginia deer? Which of the three types is the shrewder and most elusive? The high bounding gate of the mule and blacktail deer is the most spectacular but the swift rush of the Virginia deer is much faster and enables him to get out of danger much quicker than the former. However, the bounding gate is much better suited to the rough and broken country in which the mule and blacktail live and in that type of terrain they can get away much faster than animals which could easily outdistance them in level unbroken running. Their gait is ideally suited to the nature of the country in which they live. Score one more for the wise provisions of mother nature. The Virginia deer has had a few more generations of training in country which is easily accessible to sportsmen and more people are familiar with his habits, but by the same token he has

AMERICA'S NO. 1 BIG GAME ANIMAL

learned to be wiser in the ways of men and is generally conceded to be a bit more timid and somewhat shrewder in his ability to elude his enemies.

Is it true that deer grow new antlers each season? Do female deer ever have antlers? The caribou is the only member of the North American deer family in which the females normally have antlers. However, an occasional female deer does grow antlers. They are obviously freak and immature formations and are said to be due to irregular sex structures. It is known that similar irregularities or injuries cause distorted growth in the antlers of the male deer. After the mating season, any time from late December to March, the buck deer sheds his antlers and from two to six weeks later the new ones make their appearance and after reaching full growth they remain with a soft velvety like covering until the fall of the year. At this time, after antlers are polished to a hard smooth finish by rubbing, the bucks are very prone to fight.

Has the deer been able to take care of himself in the face of advancing civilization? Has the deer population been greatly reduced? A few years ago the deer population was greatly reduced in this country and the unrestricted hunting became a serious threat to their existence. Now, however, through the endeavors of sportsmen and conservationists the tide has turned. Reliable estimates place the deer population as greater than it was when white men first settled on North American shores. They are most adaptable of all of the larger game animals to the changes imposed by civilization and with proper protection and management considerable herds are maintained near large centers of population.



Museum Group

White-tails in summer.

What was done to increase the deer population? Is any wildlife study being conducted at present in the interest of deer? As an outstanding instance of what has been done for the deer one could not point to a better example than the work achieved by the Pennsylvania Game Commission. On the assumption that sportsmen were chiefly interested in big game they determined to make deer available for the hunter in increased numbers. Success in this objective would lead to still further increase in sportsmen's interest. The logic of that reasoning speaks for itself in the increase of license sales as well as of the game as a harvestable resource. In 1923, 6,460 deer were taken by sportsmen in Pennsylvania and in 1937, that harvestable surplus totalled 39,009. When one considers that deer were practically extinct when the Commission began its program of management, it makes a convincing picture of what properly administered conservation will do. The study of the deer problem continues in many places. The American Wildlife Institute is engaged in these studies at six of our nine cooperative wildlife management and demonstration units. The deer population is definitely on the increase.

THE BELTED KINGFISHER—By Dr. George M. Sutton



HOW lonely our streams would be were it not for the vivacious birds which frequent them. Spotted Sandpipers whistle and bob along the muddy margins; Green Herons flap up with a loud, hoarse squawk, and the blue-gray Kingfishers rattle around the bend, their wings beating rapidly. Kingfishers probably knew how to capture fish long before man did, and the evolutionary process has given the bird a long powerful head, long spear-like beak, and feet which are almost good for nothing save for perching quietly on a limb or for waddling in and out of the nesting tunnel.

The Kingfisher is larger than the Robin. Its head and upper parts are blue-gray and the long feathers of the head seem to form a double crest. About the neck is a prominent white collar which glistens in the sun. The wings and tail are spotted finely with white, and across the white under parts there is a blue-gray belt on the breast which has given the bird its name. Strangely enough the female bird is more brightly colored than the male and has on her side patches of bright reddish brown which the male lacks entirely.

While Kingfishers sometimes remain during the Winter in this latitude if the streams are open, they usually move southward late in the Fall and return in latter March or April with the breaking up of the ice. Their food is almost altogether fish, although some crayfish, mice and aquatic insect larvae are eaten. Their finny prey is swallowed whole, head first, and occasionally a Kingfisher tries to swallow a fish too large for it and is strangled.

The eggs are laid in a dark cavity at the end of a six-foot tunnel in the stream bank. This tunnel is dug with the bird's bill; and bill and feet are used in shoveling the loose sand and earth out in front of the bird. Seven glossy white eggs are laid, usually upon the bare ground; but sometimes surrounding them is a rough pile of fish bones and scales which have been cast up by the parent birds.

The young, when first born, are naked and very helpless and they remain in the nest until they can fly with ease. When they leave the burrow they stay together for a few days as a rule and then search for dead stubs or overhanging branches where they learn the angler's art.

Young Kingfishers, both male and female, have the bright plumage of the female bird, which shows that the ancestors of these famous fishermen were more brightly colored than the birds of today.

CURRENT TOPICS



HON. GROVER C. LADNER

The highest tribute ever accorded a member of Pennsylvania's sporting fraternity was made by Governor George H. Earle to that veteran and distinguished sportsman, Judge Grover C. Ladner, of Philadelphia, President of the Pennsylvania Federation of Sportsmen's Clubs, just before the Chief Executive left office.

The award, none other than the Meritorious Service Medal of Pennsylvania, was accompanied by the following citation:

"WHEREAS, Judge Grover C. Ladner, through his sincere and untiring efforts at all times has worked to conserve wildlife in Pennsylvania and

"WHEREAS, as a result of this work Pennsylvania sportsmen owe a deep debt of gratitude to Judge Ladner,

"THEREFORE, I, George H. Earle, Governor of Pennsylvania, hereby cite Judge Grover C. Ladner because of his devotion to this cause for a Meritorious Service Medal of the State of Pennsylvania.

(Signed) GEORGE H. EARLE,"
Governor."

To the sportsmen at large, this distinction awarded to one of its fraternity is deeply gratifying. Not only does the citation pay tribute to one who for years devoted his every effort in the interests of conservation—it recognizes the efforts of thousands of other sportsmen and conservationists for the public-spirited service they render.

Recognition has been given to merchant princes, philanthropists, musicians, artists and the like, but it remained for a sportsman to realize that those who fight for and defend the woods, the waters and the wildlife of the state and nation are also serving a great public interest and are as deserving of the recognition long given others.

WILDLIFE CONFERENCE STRESSES FARMER-SPORTSMAN RELATIONS AND CONSERVATION EDUCATION

The Sessions, both general and technical, of the 4th North American Wildlife Conference, held under the auspices of the American Wildlife Institute, and the National Wildlife Federation held at Detroit February 13 to 17 were highly indicative of the tremendous interest and enthusiasm in conserving our natural resources, and as long as that interest continues there need never be any great concern about their future. Time and space will permit only a brief synopsis of what took place during the five day joint conference. There were, however, several major programs outlined which Pennsylvania sportsmen should certainly know about:

First, the need for more conservation education; second, the importance of farmer-sportsman relationship. These two important programs were discussed at considerable length both in general and technical session. A most interesting address on Conservation Education was delivered by Dr. Thomas Eliot Benner, Dean, University of Illinois, College of Education. The PENNSYLVANIA GAME NEWS hopes sometime in the near future to reprint it with Dr. Benner's kind permission. C. R. Gutermuth, of the Indiana Department of Conservation, also delivered an excellent paper on Conservation Education in Indiana wherein he spoke of that State's well-organized group of conservation clubs and of the splendid work they are doing. There are over 800 conservation clubs in Indiana, and last year over 400 of them raised ringneck pheasants and quail under contract to the Department of Conservation of that State.

Of particular interest was the general session for women. They wield a powerful influence in whatever program they support, and if the truth were admitted they work harder with the limited resources at their command than the men. They deserve the highest tribute for their loyalty to our cause.

Quite a few Pennsylvanians attended the Conference—Seth Gordon, Executive Director of the Game Commission; James N. Norton, Chief of the Division of Game Land Management, and Leo A. Luttringer, Jr., In Charge of Public Information, representing the Commission officially. Richard Gerstell, Chief of the Division of Research, now on leave of absence, acted as Chairman of the Session on Mammal Management; Dr. Logan J. Bennett and Peter C. Randall, of the Pennsylvania cooperative wildlife research unit, delivered a joint paper on "Censusing Ringneck Pheasants in Pennsylvania." Under sessions on Upland Game Bird and Management, Mr. Gerstell delivered a paper explaining "Winter Quail Losses by Laboratory Methods."

Other Pennsylvanians attending the Conference included John M. Phillips and Dr. Arthur W. Henn, Pittsburgh; John Mock, Pittsburgh Sports Writer, who was elected President of the Outdoor Writer's Association, an honor which all Pennsylvania sportsmen join in applauding; Colin Reed, Washington, Pa., one of the directors of the National Wildlife Federation.

There were some very interesting papers presented in connection with waterfowl management, fish management and the relation of wildlife management to agriculture and to forestry in range. In the general session on fish problems that of interstate cooperation was discussed at some length. The pollution problem, and the old problem of mosquito control as it affects wildlife, were also seriously considered. The Pittman-Robertson Act was discussed, and some of the projects established under it were outlined.

The legislative objectives of the National Wildlife Federation were also made known.

They are as follows:

1. Secure the full amount earmarked annually for the projects under the Pittman-Robertson Act.
2. Congressional provision for permanently earmarking the excise tax for Pittman-Robertson projects.
3. A standing committee in the United States Senate and in the United States House of Representatives for the Conservation of Wildlife.
4. Support a Bill to earmark an excise tax on Fishing Tackle, the revenues to be used for State Fishery Restoration Projects, similar in purpose to the Pittman-Robertson Act for game.
5. Earmark funds covered into the United States Treasury from products and uses of Federal refuges, said revenues to be appropriated for the administration of these refuges.
6. Support Pure Streams Bill, sponsored by the Izaak Walton League.
7. Sponsor adequate appropriations for the several agencies and bureaus of the Federal Government engaged in wildlife and conservation activities.
8. Follow legislation introduced in Congress affecting wildlife to the end that worthy bills shall receive support and unworthy bills opposition.

The Federation also appointed a Committee to conduct the necessary research to develop a conservation education program in the public school system, firmly believing that such a program is essential to the success of conservation of wildlife and restoration programs. The Committee is to act in cooperation with other agencies, or organizations and groups. Dr. Henry B. Ward, Urbana, Illinois, is chairman; Dr. Paul B. Sears, Oberlin, Ohio and C. J. Ballam, Madison, Wisconsin are the other two members.

At the annual election of the Federation J. N. "Ding" Darling, Iowa, was elected Honorary President; David Aylward, Massachusetts, president; W. L. Finley, Oregon, Charles Plummer, Wyoming, and Colin Reed, Washington, Pa., vice-presidents. Directors included Karl T. Frederick, New York; L. W. Wendt, Montana; George W. Grebe, Idaho; Charles Giouque, Ohio; Justus H. Cline, Virginia, and Mrs. Fae Huttenlocker, Iowa.

CURRENT TOPICS

In spite of the heavy kill during the past open season, the deer population on Allegheny National Forest remains at a high level. In making this statement G. E. Spinney, Acting Forest Supervisor, *added that "Deer are still sufficiently plentiful that there is grave danger of a food shortage this winter."*

This information is based on the results of game drives on 15 sample areas by the C.C.C. camps directly after the close of the hunting season. The present estimate of deer remaining on the Forest is 40,000 head scattered over the entire 726,000 acres within the Forest boundary. This is several thousand less than reported last year at this time, but greater than the estimated deer population for any year prior to that.

When it is considered that the Forest supplied more than 20,000 of the antlerless deer taken by hunters during the recent open season, the above figures may at first seem excessive. All buck hunters know, however, that there have been and still are more females than males in the herd. In addition, the heavy female fawn crop of 1936 commenced breeding in 1938, thus accounting for *the rapid increase in the herd of 25,000 deer which survived the bad winter of 1935-36. It is estimated that the 1938 fawn crop alone exceeded 20,000, thus permitting the recent enormous kill and the continued high population level.*

Mr. Spinney evidenced satisfaction over the ever-increasing value of the Forest to the public in big game hunting. He pointed out how the State Game Commission and the Forest Service mutually recognize the inevitability of poor hunting in this section if the deer herd, still too large, is not reduced to the number that the range can normally support.

In concluding his statements, Mr. Spinney made it known that the exact deer kill on the National Forest as well as throughout the State cannot be computed until all hunters who still hold deer tags mail them promptly to the Pennsylvania Game Commission. Deer kill records are needed in order to prepare plans of management which will safeguard deer hunting here and elsewhere in the State, by so regulating the kill that deer are stabilized at a level consistent with the available food supply.

Sportsmen, conservationists and others interested in the free and frank discussion of national conservation issues are invited to attend the 17th Annual Convention of the Izaak Walton League of America to be held at the Congress Hotel, Chicago, March 16, 17 and 18, 1939. Among the notables to be present and participate in the program will be J. N. (Ding) Darling, President of the National Wildlife Federation, Aldo Leopold, professor of Game Management, University of Wisconsin, Dr. John Van Oosten, in charge of Great Lakes fisheries' investigations for the U. S. Bureau of Fisheries, and many public officials.

Under the revised Game Code, which provides for issuing permits to retain game in possession longer than thirty days after the close of the season, the Game Commission issued 2,606 permits for retaining big game, chiefly venison, and 164 for small game. Big game permits numbering 125 and small game totalling 34 were rejected because the applications were made too late for consideration.

The Pymatuning Waterfowl Museum will maintain the following schedule during the following periods:

During July, August and September—Open 1:00 P.M. to 7:00 P.M., Except Saturdays, Sundays and Holidays—Open 10:00 A.M. to 7:00 P.M.

During March, April, May, June and October and November the Museum will be open from 1:00 P.M. until 5:00 P.M.

There are over 5,000,000 big game animals in the United States, according to the Biological Survey, which just completed the first nation-wide census of big game species. Deer numbered more than 4,500,000. Michigan and Pennsylvania led in white-tailed deer with approximately 800,000 in each state. California had 450,000 mule and black-tailed deer. Elk totalled 165,000; moose, 13,000; antelope, 130,000; bighorn sheep, 17,000; black bears, 81,000; grizzly bears, 1,100; and buffaloes, 4,100. There were 43,000 peccaries and 700 European wild boars.

Several changes have been made in the wildlife poster stamps this year, notably the inclusion of 80 designs compared with the original 16, and printing in 6 colors as compared with the 4 color stamps of last year. The designs selected include a series each on upland game birds, mammals, fishes, song birds, waterfowl, trees, and wild flowers. Such well known nature artists as Lynn Bogue Hunt, F. L. Jaques, Fred Everett, and Roger Peterson have contributed the designs.

Stamps are available in sheets of 100 at $1, or singly at 1¢ each. A double size stamp also is available, as well as a poster stamp album.

Thirty-five percent of the proceeds from the sales in each state will remain in the hands of the state federation for financing conservation programs of the organization within the state, the remainder goes to finance the national program of the federation.

Four young least weasels killed January 12 in Indiana County were recently submitted for bounty.

Harold Jones, Deputy Game Protector of Dauphin County, has trapped over 500 native cottontails from Wildwood Park, adjacent to the city of Harrisburg. One of the animals weighed 4 lbs. 15 ozs.



Photos courtesy Allentown Morning Call

Game Protector Wm. A. Moyer, left and Ralph Lichtenwalner trapping rabbits on Trexlertown game refuge in Lehigh county for restocking on open hunting areas within the county.

CURRENT TOPICS



Game Protector Miles Reeder, Clinton county, examining Cinnamon bear killed near Woolrich by Fred Miller. It weighed over 350 lbs.

The Game Commission, at its meeting of January 11, 1939, decided to authorize the establishment of Cooperative Farm-Game Projects in six additional counties of the State. These projects may now be set up in 14 counties in the southeastern part of the State and 13 of the southwestern and western counties. The Commission's action in extending the territory was taken only after carefully reviewing results of the program up to this time, and the cost involved.

The Commission's Farm-Game Program was adopted in 1936 to develop a better bond of friendship between farmers and sportsmen; better protection to farm property against thoughtless or wilful acts of hunters; and to generally improve hunting conditions in the more intensively tilled and more densely populated counties. Less than three years of effort on the part of the Commission, its employees, and sportsmen has produced very satisfying results both for farmers and sportsmen, although the cost involved in arranging for and establishment of the project areas is somewhat higher than at first anticipated.

It is hoped that a review of the Commission's Cooperative Farm-Game Program will be available for publication in the April issue of the GAME NEWS. Unfortunately, all of the required information was not available when the March issue went to press.

I. T. Quinn, nationally known conservationist, and for seventeen years Commissioner of Conservation of Alabama, recently resigned that post and accepted the position of Director of Public Relations of the National Wildlife Federation. Needless to say he has the sincere good wishes of our entire hunting and fishing fraternity.

At a recent meeting the Commission entered into contract to purchase 20 tracts of land totalling 4,785 acres distributed in ten counties of the Commonwealth. The tracts involved include 20 acres in Bedford Township, Bedford County, adjacent to State Game Lands No. 48; 613 acres in Union Township, Center County, adjacent to State Game Lands No. 103; 630 acres in Beaver Township, Crawford County, adjacent to State Game Lands No. 101; 120 acres in Randolph Township, Crawford County, adjoining State Game Lands No. 69; 716 acres in Upper Mifflin Township, Cumberland County —an entirely new locality.

Huntingdon County, Clay and Wood townships, 1,493 acres were added to State Game Lands No. 121; 100 acres were acquired in Wayne Township, Erie County, adjacent to State Game Lands No. 154; 100 acres in Mineral Township, Venango County, adjacent to State Game Lands No. 39; 25 acres in Heacock Township, Bucks County, adjoining State Game Lands No. 157; 848 acres in Colley Township, Sullivan County, adjoining State Game Lands No. 66 and 119 acres in Middlebury Township, Tioga County, which will become a part of State Game Lands No. 37.

During the 18 years the Commission has conducted a land purchase program it has paid for a total of 592,838 acres of State Game Lands for which the actual consideration amounted to $2,177,830.94. The lands acquired constitute good game territory and provide areas for game refuges and also other areas for public hunting purposes. The 592,838.1 acres are distributed through 54 of the 67 counties of the State.

A conservative estimate of the present value of this large acreage is $3,075,000.00. This does not, of course, include an estimate of value of the game on the lands, or their recreational possibilities, because of the impracticability of arriving at anything like a fair estimate.

Approximately 50,000 acres additional, according to the announcement, are now under contract for purchase. Settlement and vesting title in the Commonwealth for the 142 tracts involved is being made as rapidly as boundary line surveys and title abstracting can be completed. During the past few months, title was secured for 9 tracts in six counties totalling 4,419.6 acres, the largest of which was 1,986.4 acres acquired from Stewart Eckhart in Lancaster County.



It is not often than one trapper is as snooessful as the fellow who sent in these gray foxes for bounty reoently. Gray foxes are not easy to trap.

CURRENT TOPICS

Twenty (20) active WPA Projects are now operating on State Game Lands and in addition a number of other projects are pending. The projects provide for the building of game feeding shelters and retreats, release cuttings, pruning of apple trees, tree planting, cutting fire trails, walling up springs, road repairs, development of food plots, etc.

There are likewise quite a large number of NYA Projects which have been approved for operations on State Game Lands. A number of Refuge Keepers are getting very good results from work conducted by the NYA boys in the development and maintenance of our holdings.

Sales of timber from State Game Lands from June 1, 1938, (the beginning of the fiscal year) to January 1, 1939, netted $2,993.44, which was deposited in the Game Fund. Several other timber sale contracts now in force are expected to more than double that amount before the end of the fiscal year.

Although it was expected that the Pymatuning Museum in Crawford County would be closed to the public most of the time after December 1, 1938 and until about April 1, 1939, Refuge Keeper Oudette found it advisable to open the museum frequently during December. A total of 233 visitors registered during that month. From October 15 to December 1, a total of 5,979 visitors registered.

NOTES FROM THE FIELD

"At about 9:00 P.M. on the evening of January 17 I received a telephone call from Captain Jenkins of the Sun Oil Co. Tanker Riveria, just docked at Marcus Hook, to the effect that they had a big doe on board ship. He wanted me to come down and get her.

One of my Deputy Game Protectors was at my place at the time so we and my son Harold left for Marcus Hook immediately. When we arrived on board ship we found the deer with a rope around her neck, tied up to an anchor post. The story as told to me by first shipmate Neilson is as follows:

The Tanker Riveria was on her return from up the Hudson River where they had unloaded a tank of oil, and on Sunday about 3:30 P.M. when they were opposite Newburg, New York, they sighted a large deer out on a big ice floe. Maneuvering the ship around to where they could get in close enough to the animal they threw a rope around its neck and hauled her on board.

They said they had no trouble in tying her up, as she was about all in. When we arrived the animal was rested up but we did not have very much trouble in tying our own ropes on her and releasing the ship crew's ropes. My Son



James Wicks, left, and A. B. Harlacker, both of Progress, Pa., with bears killed in Sullivan county. Harlacker's bear weighed 437 lbs.

and I returned home about midnight with the deer in fine shape. I have a neighbor who has a vacant garage next door, so we put some straw in one corner, some Omeline (deer feed) in a pan, also some water, and took off the ropes. She jumped right up, ran into one corner, wheeled and looked at us with a defiant, angry look in her eyes.

We closed the doors and retired for the night. Next morning she was lying on the straw chewing her cud and seemed quite well contented."—Game Protector Blair J. Davis, Delaware County.

"While walking out a fire trail on Game Lands No. 92 I found a hen turkey weighing approximately 10 pounds lying dead. It was killed by a winged predator, as there were no tracks other than the turkey's in the snow. By following the back track I found three places where the turkey was struck, and quite a few feathers were at each place. The turkey was opened up at the breast and I noticed that the crop contained a number of acorns. Upon taking the acorns from the crop and counting them I found that it contained 61. I placed traps at the remains of the turkey, hoping to catch the predator should it return to eat at the carcass."—Refuge Keeper Joseph Kistner, Centre County.

Game Protector Leroy Gleason advises that he trapped over 500 rabbits in and around his home territory within the past few months.

The sportsmen of Reading have been conducting rabbit drives on the water shed of the local Power and Light Company which have been netting them on the average of 100 to 200 cottontails a day.



Miss Anne Jane Phillips, daughter of John M. Phillips, Pittsburgh, grand old man of Conservation, photographing his cubship.



JOHN C. YOUNGMAN, President



M. C. MERRITTS, Vice-President



DR. C. A. MORTIMER, Secretary

SPORTSMEN'S FEDERATION MEETS

Conservation Education Stressed

An unprecedented attendance marked the annual meeting of the Pennsylvania State Federation of Sportsmen's Clubs held at the Forum of the Educational Building in Harrisburg on February 13. Pennsylvania is indeed fortunate in having a united organization such as the Federation, for through its interest, its support, and its cooperation Pennsylvania has become the greatest hunting and fishing State in the Union.

The Federation at present includes a membership of over 135,000 persons, and each year finds more clubs affiliating with this active statewide group. Motivated by unselfish ideals and principles, the Federation has from its very beginning promoted the highest type of game and fish legislation. Probably the most important general program ever endorsed by this group took place at the Conference just ended, namely, that of advocating the teaching of Conservation Education in all State Teachers Colleges, and in the public schools. Copies of resolutions, submitted by Dr. S. C. Boyer, of Johnstown, Chairman of the Educational Committee, will be sent to the Governor, Superintendent of Public Instruction, the Game and Fish Commissions, the American Legion, various civic clubs, etc.

The Resolutions Committee, headed by Merrill C. Merritts, of Altoona, was in session practically all day Sunday, the 12th, at which time it gave serious consideration to the 136 resolutions submitted.

Resolutions adopted and rejected by the Federation on February 13 are as follows:

GENERAL RESOLUTIONS APPROVED

Governor's Statement—Thanking Governor James for the splendid statement he made as published in the February GAME NEWS and the ANGLER and pledging the Federation's cooperation.

Game and Fish Commissioners—Recommending that all Members of the two Commissions, including the Commissioner of Fisheries, be permitted to serve out the terms for which they have been appointed, unless any such persons have been politically active or have for some other reason disqualified themselves.

Consolidation of Departments—Opposing any consolidation of the Fish and Game Commissions with the Department of Forests and Waters.

Federal Stream Pollution—Endorsing a bill similar to the Lonergan bill in the last session of Congress.

Sanitary Water Board—Recommending that a separate independent board be established and directing the Federation to sponsor such a bill in the Legislature.

Stream Pollution—Approving the resolution adopted by the Izaak Walton League at its 1938 convention in Chicago.

Pollution Compact—Recommending to the Legislature the ratification of a proposed compact with neighboring states.

Tattooing Dogs—Endorsing the proposal and directing the officials of the Federation to draft a plan for submission to the Legislature.

Gathering Nuts From Forests—Recommending that the Department of Forests and Waters take steps to regulate the gathering of nuts from State forests.

Dog License Fund—Recommending that an additional appropriation of $150,000 be made from the dog license revenue for the enforcement of the law to help stop the spread of rabies.

Educational Committee—The Federation's Special Educational Committee submitted a comprehensive report and recommendations which were adopted.

GAME RESOLUTIONS APPROVED

Hunting License Age—Changing the requirements relative to accompanying minors under 16 (Section 316, paragraph (d).

Hunting License Issuance—Endorsing the Game Commission's recommendation that the present system of issuing licenses be continued for two more years.

Rim Fire Cartridges—Recommending that the law be changed so as to prohibit the use of .22 and .25 caliber rim fire cartridges in hunting big game.

1939 Grouse Season—Recommending that the 1939 grouse season be a full thirty days.

Varying Hares (Snowshoe Rabbits)—Recommending that the season be the same length as the cottontail rabbit season.

Woodchucks—Recommending that the law be changed to permit hunting of woodchucks between the hours of 7 A. M. and 7 P. M. E. S. T., during the period from July 1 to September 15 inclusive; also that the law be changed to permit carrying rifles without being wrapped or in a case during the same hours between July 1 and September 15; and recommending to the Commission that the woodchuck season be fixed for said period only.

Skunks—Recommending that protection be removed from skunks.

Waterfowl Shooting—Recommending that waterfowl shooting be allowed during the open season to 5 P. M. instead of 4 P. M.

News Releases—Requesting the Game Commission to so arrange the sending out of its news releases so that the papers throughout the State will receive them at the same time they go to the Capitol Press Room.

Game Food—Recommending to the Commission that arrangements be made to buy its supply of game food earlier so that it will always be available when needed.

Antlerless Deer—Recommending that the law be changed so as to define an antlerless deer as any deer without horns or antlers, or a deer with horns or antlers not to exceed 3" measuring from the hase of the burr; also approving the Commission's recommendations that landowners be permitted to hunt antlerless deer without permit when a special restricted season under permit is declared.

License Tag—Recommending to the Game Commission that the license tag be so manufactured that a part can be broken off and attached to a big game animal immediately upon killing.

Browse Cutting—Endorsing the present program of browse cutting for deer and recommending that it be done more extensively.

Setting Traps by Use of Motor Boats—Recommending that the law be changed to prohibit the use of motor boats to set traps.

Appointment Members of Game Commission—Recommending that the law be changed to read that no two members of the Commission shall be appointed from the same senatorial district instead of the present provision which stipulates that commissioners shall be so appointed as to represent the several geographical regions of the State.

County Game Kill—Recommending that the Game Commission provide space on the 1939 game-kill report blank so that hunters may indicate the counties in which the several species of game are killed.

Opposing House Bill No. 55—Opposing House Bill No. 55 which would prohibit shooting within 200 yards of the highway or buildings.

Raccoons—Recommending that the hunting of raccoons with dogs be allowed from November 1 to December 31, inclusive, and that trapping be permitted only from December 1 to December 31.

Game Killed by Mistake—The Federation endorsed the recommendation of the Commission that Section 710 of the Game Law be amended to require the payment of only 25% of the regular penalty for the killing of all birds or animals by mistake, with the Commission being granted the privilege of accepting the same proportion of the penalty in exceptional cases where true sportsmen for some good and sufficient reason were unable to make the report within the 24-hour period.

Institutional Grounds—A recommendation of the Game Commission that the law be amended so that when publicly owned institutional grounds are

SPORTSMEN'S FEDERATION MEETS

posted against hunting, no one may legally hunt thereon.

Taking Opossums with Lights—A resolution from the floor recommending that the law be changed to allow the taking of opossums with lights in the same manner as raccoons may now be taken was adopted.

Pittman-Robertson Act—A resolution from the floor recommending that the President of the Federation appoint a committee of five to confer with the Game Commission relative to the campaign to secure the full appropriation from Congress under the Pittman-Robertson Act and the use of said funds.

Fox Hunting—A resolution from the floor recommending that that portion of Section 719 of the game law relative to special seasons for fox hunting in various counties during the period between April 1 and August 19 inclusive be amended to make it permissive rather than mandatory upon the Game Commission by changing the word "shall" to "may" was approved.

Weasel Bounty—A resolution recommending that the Game Commission increase the bounty on weasels to $1.00 was approved.

Possession of Game—The Commission's informal recommendation that the law be changed to allow the possession of game legally taken for a period of sixty days after the close of the season, instead of the present thirty days without permits and six months additional with permits, was adopted.

Use of Rifles Five Days Before Deer Season—The Commission's informal recommendation that the clause in Section 501, sub-section (a) which prohibits the use of rifles to hunt game of any kind during five days preceding the open season for deer be eliminated was adopted.

Refuges Maintained by Sportsmen—A recommendation of the Game Commission that provisions be added to the game law so that sportsmen, in cooperation with landowners, may establish refuges which will have the same protection as State Game Refuges, when legally posted, was adopted.

GAME RESOLUTIONS DISAPPROVED

Red Foxes—A recommendation that the red fox be placed on the bounty list was tabled.

Controlled Burning—A resolution recommending that the Game Commission make some experiments on State Game Lands with controlled burning to determine whether such burning is advantageous to game or not was rejected.

Carrying Certain Firearms at Night—The recommendation of the Game Commission that it might be wise to prohibit the carrying of .22 calibre rifles at night, except when wrapped or in cases, was rejected.

Woodchucks in Luzerne and Carbon Counties—A resolution offered from the floor to allow the taking of woodchucks with dogs and by digging them out of their dens in Luzerne and Carbon Counties was rejected because the Resolutions Committee had adversely acted upon the same resolution.

Non-resident Hunting License Fee—A resolution from the floor that the non-resident hunting license fee be increased from $15.00 to $25.00 was rejected.

Employment of More Deputy Protectors—A resolution from the floor recommending that more Deputy Game Protectors be employed during big game season by transferring such officers from small game counties to big game territory and utilizing penalties collected from deer and bear hunters to pay for such additional service was defeated because it had been adversely acted upon by the Resolutions Committee.

South Mountain Deer Herd—A resolution from the floor recommending that the entire South Mountain belt be set up under special rules and regulations as a large research and controlled demonstration project was defeated.

Steel Traps—A resolution to prohibit the use of steel traps larger than "0" size between April 1 and December 1 was defeated.

FISH RESOLUTIONS APPROVED

Waterdogs—Recommending that the fish law be changed to permit the issuance of permits to spear waterdogs under the direct supervision of fish wardens.

Minnow Seining—Recommending that the fish law be changed to prohibit seining for minnows in trout streams.

Uniforms for Fish Wardens—Recommending that the Fish Commission supply its wardens with uniforms.

Spring Creek Project—A resolution opposing the establishment of further restrictions governing fishing in Spring Creek; also opposing further extension of that project.

Spring Creek Project—Recommending that the Fish Commission provide more comfort station facilities at the Spring Creek Project.

Signing Fishing Licenses—Recommending that the fine for failure to sign fishing licenses be reduced from $25.00 to $2.00.

Sunday Fishing—Recommending that the Sunday fishing law be clarified so as to permit fishing of all kinds under the same restrictions as apply on week days.

Film Library of the Fish Commission—Recommending that the film library of the Fish Commission be enlarged and more films be made available.

Pickerel Fishing Through Ice—Recommending that the law be changed so that no fishing for pickerel through the ice shall be permitted except in counties where the organized sportsmen request it.

Fish Commission Set-Up—Recommending that the Fish Code be completely re-drafted along the lines of the Game Code, Commissioners to be appointed for staggered terms and the administrative head to be selected by the Commission instead of being appointed by the Governor.

Nets—Change the law so as to require special permits for the possession and use of all nets other than landing nets.

Large Trout in Spring Creek Project—A resolution offered from the floor recommending that the Fish Commission modify its rules governing fishing on the Spring Creek Project so that large trout may be removed through the use of weighted lures was adopted.

Fish Wardens' Salaries—A resolution from the floor recommending that the salaries of fish wardens begin at $1200 and be increased to $1800 at the rate of $100 annually was approved.

Bait Fish—Reducing the number of bait fish that may be had in possession in any one day to 25 and making it unlawful to seine for bait fish in public fishing waters.

Bait Fish for Sale—Making it unlawful to sell bait fish or fish bait taken from public fishing waters.

FISH RESOLUTION DISAPPROVED

Endorsing Fish Hatchery Production—A resolution offered from the floor commending the Fish Commission for its production at the hatcheries was rejected because it had not been presented to and recommended by the Resolutions Committee.

At the close of the Session nominations were made for officers for the ensuing year. John C. Youngman, of Williamsport, Vice-President of the Federation, was elected President; M. C. Merritts, of Altoona, Vice-President; and Dr. C. A. Mortimer, of Wilkes-Barre, Secretary-Treasurer. Judge Grover C. Ladner, who for years headed the Federation, declined to run again. However, those who know the Judge will readily understand that his interest will continue just the same, and his experience and advice will be a helpful influence in furthering the program of the Federation in the future.

SCATTER LOADS

The muscular power of birds, ounce for ounce of weight, has been determined to be several times that of any other living creature.

More than 800 ear-tagged deer have been released at various points throughout Michigan during the last seven years, according to the records of the department of conservation. Return of the tags by hunters who shoot tagged deer aids game workers in determining how far deer range from their winter yards.

According to Orson N. Ritzman, Executive Secretary of the State Publicity Commission, Pennsylvania ranks third in tourist trade. During 1938 Pennsylvania was one of the very few states, probably the only one that claimed to have held its own along this line, the tourist business remaining at about $400,000,000. New York is first and California ranks second. The number of tourists who came into the State during 1938 is estimated at 8,000,000.

Two monkeys have been trained as assistant collectors of botanical specimens in high trees, by E. J. H. Corner, Acting Director of Gardens, Straits Settlements. The animals are of the species known locally as "berok." They understand twelve words of Kelantanese, a native language, and can thus be instructed to pick only the twigs which their owner, on the ground, directs them to take.

James N. Morton, Chief of the Division of Game Land Management and Leo A. Luttringer, Jr., In Charge of Public Information, attended the joint meeting of the New England Game Conference and Northeastern Division of the Wildlife Society, Boston, Massachusetts, February 3 and 4.

Prosecutions for violation of the Game Law during January, numbered 834, and the penalties collected totalled $7,553.50.

According to a recent national radio quiz, hunting and fishing are by far the most popular sports in the United States.

One of the largest specimens of wildcats ever caught in the Renovo section was trapped by Fish Warden George Cross, assisted by several hunters who aided him in digging it from a hole after the animal had viciously attacked the warden's dog. The animal, which weighs about 40 pounds is to be used in a motion picture to be made by the Game Commission.

A quail furnished considerable excitement in the English Class of the Bloomsburg High School when it crashed through a window, sailed blindly across three rows of seats, struck a girl pupil on the shoulder, and fell dead in the aisle.





Photo courtesy Lancaster New Era

Upper—Some of the 175 men who took part in a rabbit round-up in Lancaster county recently. The men are shown converging upon the corral.

Lower—A section of the quarter-mile net stretched to guide the rabbits into the corral.

Insert—M. J. Golden, Berks County Game Protector, examines one of the six cottontails caught on the first drive.

The Spring Field Trials of the Capitol City Field Trial Association will be held at its grounds on the Indiantown Gap Military Reservation April 8 and 9. The stakes will include derby, junior all-age, all-age, and shooting dog. The judges will be Thomas R. Baldwin, of Washington, D. C., and C. A. Cook, of Bradford, Pennsylvania.

The *Easton Daily Express* recently sent to over forty newspapers in Pennsylvania and New Jersey a splendid mat and story designed to arouse public opinion and action to effect some means of reducing the amount of vandalism and poor sportsmanship which has been so prevalent in some sections during the past two years. The campaign is launched particularly against an alarming increase in illegal shooting of deer.

The Consolidated Sportsmen of Lycoming County is one of the most outstanding sportsmen's associations in the State, and its set-up insures only the highest efficiency in operation. The organization contains approximately 2200 members governed by a President, two Vice-Presidents, a Secretary and a Treasurer. The county is divided up into areas with a director chosen from each area. The director's of the areas serve as chairmen of the various committees which carry on the actual work of the organization. The committee chairmen in turn form the executive committee.

A recent report of the association's retiring President, Dalton Bell, part of which is excerpted hereinafter, gives some idea of the manifold activities carried on by the organization during 1938.

Due to the club's strenuous pollution program under the guiding hand of John Youngman, Chairman of Waters, some of the finest catches of fish were recorded from the Susquehanna River in that section, and quite a few salmon weighing anywhere from seven to eight pounds and averaging 25 inches in length were taken. The association hopes, through a concerted mine sealing program, to further improve fishing in the streams of Lycoming County.

Numerous meetings were held during the year in various towns and a memorial gathering was held at Montgomery in honor of three of the association's members, namely, Dr. Gortner, Dr. Charles F. Taylor, who lost his life on the "last raft", and E. G. O'Connor.

The organization was responsible, through Carl Rosser, for establishing a method of identifying dogs by means of tattooing. It also furnished public schools with copies of the GAME NEWS and the *Angler*, and donated five subscriptions to the Y.M.C.A. for as many worthy boys in the community.

The association, due to the untiring work of George Bush, prepared a splendid map showing every available trout stream in the county, a copy of which was made available to each member for 50¢. Through the efforts of George Hatchbuck the association was able to establish two small game propagating areas and a 1000 acre dog training and propagation area. The retiring President in his report heartily urged the development of ten or twelve more propagating areas as a future means of increasing the game supply.

The Fish Committee was commended for its untiring work of posting nursery streams and distributing fish. Through its efforts some 100,000 fingerling trout, 21,000 rainbow, brown and brook trout four to six inches long, and 6500 bass three to six inches long were distributed over the county—all from State and Federal hatcheries. The association also raised 18,200 trout in its own nursery under the direction of G. D. Reed, Chairman of the Trout Farm.

A. D. Huffman was given a vote of thanks for his generosity in furnishing facilities for a successful game farm where 752 ringneck pheasants were raised. Special mention also was made of the activities of John Ross,

WITH THE CLUBS

Division Game Supervisor, Leroy Gleason, local Game Protector and Carl Beidelspacher, local Fish Warden. Bruce Hunt was highly commended for the splendid manner in which he handled the organization's publicity.

These are only a few of the highlights of this one association's activities. Think what similar groups, and there are many, are doing to restore wildlife in other parts of the Commonwealth. To carry on a program, and carry it on right, however, there must be wholehearted cooperation on the part of every member of the association, and the work must be systematized so that each unit within the county and each member within a unit has certain tasks to perform. Only in this way can the fullest measure of success be obtained.

Officers elected for 1939 include Walter C. Horn, Newberry, President; J. F. Sedam, First Vice-President; George R. Hassenplug, Treasurer, and S. Dale Furst, Secretary. John C. Youngman, Chairman of the Pollution Committee was named delegate to the Pa. State Federation of Sportsmen's Clubs and Dalton Bell, retiring president was named alternate. Samuel Castner, member of the Game Commission, from Williamsport, has long been active in the affairs of the Association.

Three hundred and two rabbits were purchased and released recently by the Mt. Joy Sportsmen's Association. The club is now conducting a membership campaign.

The Sequoi Rod and Gun Club, of Lancaster, recently organized a trap shooting unit with several picked teams which will shoot in open competition for high ranking individual honors and prizes to be awarded by the club body. About forty members have already signified their intentions to register.

Game Protectors throughout the State are being assisted at this time by the sportsmen and special agents, in a vigorous state-wide campaign to trap rabbits and other game from regularly established game propagating areas, parks, city watersheds, orchards, nurseries, and other protected places where they are too numerous or are doing damage. This game is being released in open hunting territory in the county where trapped, where it may increase in the future for the benefit of all sportsmen.

In some counties of the State a program of this kind has been in operation for several years. "Necessity is the Mother of Invention," according to an old saying, and so rabbit, squirrel, raccoon and damage by other game, led to the idea of trapping and removing this game. It was soon learned that the finest kind of native game could be secured in this way, in worth-while numbers, at low cost, for restocking purposes.

The Game Commission last fall decided to make this game trapping state-wide. Rabbit box traps and handling crates were made in large numbers by the N.Y.A. and the Soil Conservation Service and distributed to the Game Protectors.

From reports received the following counties were leading in rabbit trapping on February 1: Berks, Montgomery, Dauphin, Lehigh, Schuylkill, Luzerne, Snyder, Centre, Cambria, Butler, Crawford and Allegheny. It is also believed that large numbers of rabbits will be secured in York, Lancaster, Delaware, Lackawanna, Northumberland, Erie, Lawrence, Mercer, Westmoreland and Cumberland, and many other counties will also be able to secure a goodly supply during this campaign.

Many rabbits are being trapped and transferred from the fields on the State Game Farms.

Sportsmen in many localities are assisting very materially in this splendid game management plan, and are having just as much if not more fun in helping to trap game than they had during the hunting season, while at the same time they are preparing their home sections for a bigger and better supply of game for future hunting.

Sportsmen, give your Game Protectors all the help you can in this state-wide game trapping campaign, and you will see the possibilities along this line in obtaining future supplies of game for restocking purposes, to supplement the output of the State Game Farms and the regular game purchases.

TO ALL SPORTSMEN'S ASSOCIATIONS:

Now that annual meetings and banquets are taking place at which time new officers are elected for the current year, it is essential that our mailing list be carefully checked, the names of new secretaries added and those of retiring officers removed. To this end will you please cooperate by sending the name and address of your newly elected secretary.

The Lawrence County Sportsmen's Association got off to a good start this year—in fact so many attended their first regular meeting that, according to S. Gaylord Henseley, Secretary, the club is going to have to look around for a larger meeting place. Lawrence County at present, according to Secretary Henseley, is talking about nothing else but foxes. There are more hunters interested in this sport this year than ever before. Anyone knowing of good fox hounds that can be bought at a reasonable price is asked to contact I. R. "Pappy" Gibson, Euclid Avenue, New Castle. He is Chairman of the Fox Hunters' Division of the club.

The state of Indiana has 837 wildlife conservation clubs.

The Cocalico Sportsmen's Association recently organized a Junior Auxiliary and expect to take in at least one hundred young boys in the near future.

During the year 1938 the Red Lion Fish & Game Association, of York County, raised 650 pheasants, 590 of which were released prior to the hunting season; the remaining 90 are being held for spring release. During the coming summer the club plans to increase its propagation activities and has enlarged its rearing pens three times their original size. The improved pens now measure 120 feet long and 40 feet wide, and are covered with a strong wire. At a recent meeting the association decided to apply for 800 day-old chicks from the Commission. During the month of December the club purchased and released 249 rabbits from Kansas.



West View, Pittsburgh, hunters distributing hay for deer near their hunting lodge on Round Island Ridge, Clinton county. They drove from Pittsburgh to Clinton county and back in the same day—that's sportsmanship.

WITH THE CLUBS

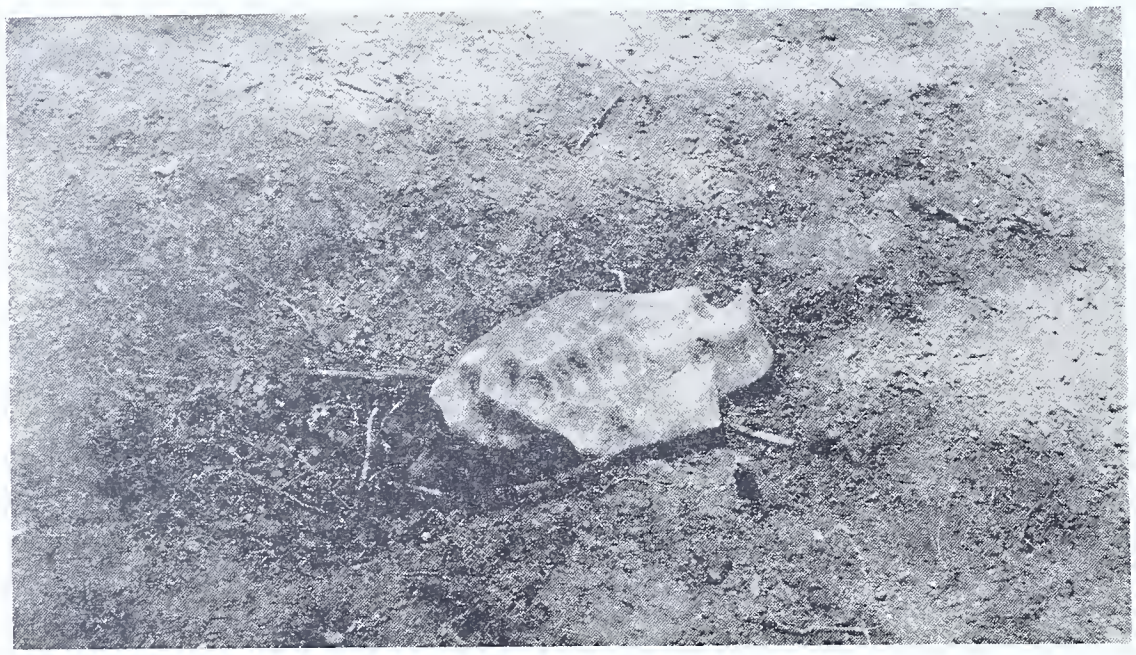


Photo by Dr. Dean

Some persons say that deer will not lick rock salt. Here is proof that they do. Note marks on this piece taken from Game Refuge 33 by Game Protector Elmer Pilling.

The Keystone Fish, Game and Forestry Protective Association, of Shamokin, recently released over 300 rabbits on open hunting grounds.

The Daniel Boone Rod and Gun Club, of Reading, released over 200 ringneck pheasants during the spring of 1938, and at present is holding 50 cock birds for release this spring Orders have also been placed for approximately 400 cottontail rabbits which will be released on open hunting territory.

The Oswayo Valley Club, of Potter County, was declared the winner of the 1938 vermin contest held by the County Sportsmen's Federation. A prize of ten dollars offered by Judge Lewis, of that County, was awarded. A similar contest will be carried on during 1939.

The Shenandoah Fish & Game Association recently purchased and released 20 crates of rabbits.

Six crates of cottontails were purchased and released by the New Boston Rod and Gun Club.

The Girardville Fish & Game Protective Association is preparing to rear six-week old pheasants under the cooperative game propagating program between the Commission and various sportsmen's associations.

The Lenhartsville Fish & Game Association recently purchased and released 240 cottontail and 12 Jack Rabbits. The club, which is only three years old, has a membership of over two hundred.

The Education Committee of the Montgomery County Fish, Game and Forestry Association under the able leadership of Earnest A. Heebner, its Chairman, deserves a lot of credit for carrying on a fine conservation program among the young people during the past year. First off, the Committee gathered together and sent to every school unit in the county all the conservation bulletins, pamphlets and wildlife posters available within the Commonwealth together with a list of similar publications available elsewhere.

The Committee also organized the Worcester Junior High School Sportsmen's Club which, during the last few months, built 51 feeding shelters.

It also compiled a list of ten ways of becoming a better sportsman which was issued with every hunting and fishing license sold in the county.

NEW CLUBS

Lakemont Sportsmen's Association, Lakemont, Pa., Chad Troxell, President

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Irvona Game and Fish Association, Irvona, Pa., Robert A. Oatman, Secretary.

Warrior Run Rod and Gun Club, Camp No. 268 of the United Sportsmen of Pennsylvania; Owen Williams, Secretary, Warrior Run, Pa.

Starlings are now moving from their summer and autumn roosts in street trees to the better shelter which the cornices and window ledges of buildings give them against winter weather. They will continue to befoul the fronts of the buildings and to bespatter sidewalks—and the hats of luckless pedestrians.

Means for discouraging starlings from roosting on building fronts have been worked out by scientists of the U. S. Biological Survey. They have been urgently recommended to architects, but the architects, both government and private, have blandly ignored the recommendations. And the starlings continue to clutter up the building fronts all winter long.

Simplest of the anti-roosting devices, and among the most effective, are what E. R. Kalmbach of the Biological Survey calls "slope boards." These are surfaces of wood, concrete, or other materials set at steep angles on top of the flat ledges, cornices, capitals and other architectural details where starlings like to roost. The birds can no more perch for the night on a 45-degree smooth surface than you could sleep on a mattress at that angle.

These starling-proof slopes could easily have been made part of the original architectural design of the new government buildings in Washington, as well as of private buildings everywhere. But the architects preferred to stick to the flat top surfaces of tradition.

In Washington, some slope boards have been installed, at greater expense, in a few places on the new buildings, where the starlings have done exactly what the biologists told the architects they would do. On one of the most imposing of the new edifices, the Archives Building, the starling pest had become so bad that electrically charged wires were strung, and these drove the pests away. But most of the buildings, here and elsewhere in the starling-infested parts of the country, are still unprotected.

Slope boards are by no means the only anti-starling devices which biologists are trying out. For older buildings, with more architectural curlicues around their upper parts, complete enclosure of the top story front in netting, of either wire or cordage, is recommended. Such netting is practically invisible from sidewalk level, on buildings tall enough to be favored as roosting places by the starlings.

The biologists are also trying out big cage-traps, placed in suburban spots where the birds gather in flocks for their final flight into the city, after feeding all day in the country. Poison baits have been tried but were found ineffectual; starlings are such omnivorous feeders that they would not take enough of any bait, however tempting, to get fatal doses.

It is not expected, or even desired, to wipe out the starling flocks altogether. The birds, though pests in the city, are useful destroyers of insects in the country during certain seasons. But it is hoped that means can be found to reduce their numbers, and above all, to discourage them from their misguided choice of winter roosting places.

Science News Letter, December 17, 1938

THE COMMISSION'S LAND PURCHASE PROGRAM BRIEFLY REVIEWED

(Continued from Page 8)

Agriculture, through the Biological Survey, to cooperate with the States in certain designated wildlife restoration projects, including the acquisition of lands for game management areas.

Seventh-five percentum of any such projects approved by the U. S. Secretary of Agriculture is paid by the Federal Government, and the other twenty-five percentum by the State Game Commission concerned. The Federal funds are derived from the 10% excise tax imposed by the Congress on firearms, shells and cartridges, which are estimated to produce $3,250,000 annually. For the present fiscal year the Congress appropriated only $1,000,000 of the revenues so derived. Sportsmen throughout the United States contend, and rightfully so, that all of this excise tax should be appropriated for the Federal aid to the States in wildlife restoration program. However, according to recent newspaper accounts, there is some opposition on the part of the Director of the Budget against Congress making an appropriation of more than $1,000,000 for the next fiscal year. Sportsmen favoring the Federal-aid program have the right, of course, to make their wishes known to their Members of Congress. Unquestionably the entire ear-marked fund should be appropriated.

The U. S. Secretary of Agriculture recently certified that Pennsylvania's share of this year's $1,000,000 appropriation is $46,025.99. Of this apportionment, $2,625.00 has been allocated by the Game Commission for a Cooperative Research Project, and the remainder, i.e., $43,400.99, is available for land acquisition projects. One land acquisition project has already been approved by the U. S. Secretary of Agriculture. It provides for the purchase of 16 tracts estimated to contain a total of 9,044.7 acres, mostly sub-marginal farms, distributed through nine Pennsylvania counties. These tracts are listed below. A second project application is in preparation and will shortly be submitted to the Secretary of Agriculture for approval.

Tracts Approved for Purchase with the aid of Federal Wildlife Restoration Funds

County	Township	Grantor	Estimated Acreage
Blair	Catharine	R. F. Norment	1,757.0 Opt.
Butler	Donegal	Butler County National Bank	346.2 Net
Crawford	Steuben	Milan A. Gray	400.0 Opt.
Erie	Amity	Federal Land Bank of Baltimore	185.3 Net
		T. F. Montague, et ux	129.7 Net
Erie	Venango	John Wonner, et ux	224.0 Net
Erie	Greene	S. R. Lewis, et ux	232.0 Net
Erie	Greenfield	Federal Land Bank of Baltimore	170.0 Opt.
Erie	Venango and Amity	J. B. Ramsdell, et ux	247.0 Opt.
		Read Merry, et ux	40.0 Opt.
		O. C. Bueg, et ux	180.0 Opt.
Indiana	W. Wheatfield	F. E. George, et ux	783.1 Net
Lancaster	Penn	S. Eckhart, et ux	1,986.4 Net
Northampton	Moore	A. H. Rauch Est.	725.0 Opt.
Northumberland	Zerbe	Whitmer-Steele Co.	1,271.0 Opt.
Schuylkill	Pine Grove	C. L. Batdorff Est.	368.0 Opt.
	Total	16 tracts	9,044.7 Acres

The acquisition of lands under this cooperative arrangement must follow the same procedure as for all other lands purchased by the Game Commission, but in addition requires the approval of the United States Secretary of Agriculture, through the Biological Survey. Options for the purchase of lands are secured by employees of the Game Commission, submitted to the Commission for its action, and if accepted become purchase contracts when this fact is indicated on the options and they are signed by the President of the Commission and his signature attested to by the Executive Director. Title for these cooperative purchases, as well as for all others, will be vested in the Commonwealth of Pennsylvania, for use of the Game Commission. In other words, *they will become the property of this State with no strings attached*, and their management and development will be solely in the hands of the Game Commission.

Tracts recently approved for Purchase by the Commission

The Commission at its meeting on January 12, 1939 deliberated over the terms and conditions specified in 44 land purchase options, having an aggregate of 11,323.7 acres. Options on 20 of these tracts, comprising an estimated 4,785 acres, were accepted and purchase contracts subsequently entered into. Most of these tracts are small, but connect with other lands in which the Commission is interested, either previously conveyed or under contract for purchase. Exceptions to this are six tracts in Upper Mifflin Township, Cumberland County which, when finally acquired, will comprise the first land the Commission has purchased in that County.

Tracts approved for Purchase by the Commission January 12, 1939

County	Township	Adjacent to	Owner	Acres
Bedford	Bedford	S.G.L. No. 48	G. A. Carpenter	20.0
Center	Union	S.G.L. No. 103	E. S. Bennett	o13.0
Crawford	Beaver	S.G.L. No. 101	Ariana S. Kennedy Est.	240.0
			Ariana S. Kennedy Est.	390.0
Crawford	Randolph	S.G.L. No. 69	Antonis Kudis	120.0
Cumberland	Upper Mifflin	New locality	Guy B. Elliott	227.0
			J. A. Swartz Est.	28.1
			E. R. Lay and S. R. Landis	96.0
			S. E. Landis	162.0
			John S. Myers Est.	20.0
			Daniel P. Myers Est.	183.0
Erie	Wayne	S.G.L. No. 154	J. Cherry	20.0
			Frank A. Cooper	80.0
Huntingdon	Clay, Wood	S.G.L. No. 121	S. C. Weyant	1,493.9
Venango	Mineral	S.G.L. No. 39	Gertrude B. Perrine	100.0
Bucks	Haycock	S.G.L. No. 157	County Commissioners	14.0
			County Commissioners	4.0
			County Commissioners	7.0
Sullivan	Colley	S.G.L. No. 66	J. C. Harvey, et al	848.0
Tioga	Middlebury	S.G.L. No. 37	John O. Hoare	119.0
	Total	20 tracts		4,785.0

Toads are equipped with tongues of special design to aid them in snipping up insects without bothering to exert themselves greatly. Like many other forms of animal life, the toad has a tongue which it shoots out to impale insects. Unlike the other insect gathering tongues, the toad's is not attached to the throat, but to the front of the upper jaw. It lies with its free end pointing backward and is not darted out, but snapped forward like a rubber band.—*From The American Wildlife Institute.*

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FOX HUNTING NOTES

By W. NEWBOLD ELY

Fox Studies

THERE are two quite controversial subjects which we have often touched on in these columns. One is whether the red fox in America is indigenous or not, and the other and more important one, what comprises his menu. Both of these questions are ably answered by my good friend Clifton Lisle in a paper prepared for the Academy of Natural Sciences, which also gives some most interesting accounts of Sir Charles' never prosaic life. "When Solomon in his wisdom sings of the foxes—the little foxes that spoil his vines and mar his tender grapes, he touches on a subject still mooted among us—just what do American foxes eat? Nor is that all we argue about, for no one knows for sure if our Red Fox (*Vulpes Fulva*) is kin or not to the 'Daun Russel' of Chaucer's merry Rhyme or to the white-tagged, straight-necked 'Charles' that pilots the Quorn or the Pytchley across the chiming English shires of today. Volumes could be written—and have been—but a few words sum them up.

It seems certain that the present American Red Fox and the British Red Fox are kin of a sort—the result of cross-breeding between our native Red, once scarce along the Eastern seaboard, and the European Red Fox introduced in the middle decades of the 18th century for hunting purposes by our sporting sires. The story of it is of interest. The Red Fox, according to Colonial records, was originally rare, extremely so, throughout the woodlands of the East and South, but plentiful in the North and Northeast, especially in the more open glade-lands. Kalm tells us in 1770 few were to be found in Pennsylvania or New Jersey, although the Gloucester Foxhunting Club was already in full swing, probably hunting grays. Records of their runs still exist. Bartram, the naturalist, claims that the Indians of the Atlantic colonies told him repeatedly that the Red Fox had been introduced by the whites, as they had never seen or heard of a Red Fox before that time. Gray Foxes, of course, were always plentiful.

Tradition further says that the English Fox was first liberated on Long Island, N. Y. by one of the early Royal Governors of sporting tastes. Thence they are said to have reached New Jersey and Pennsylvania, where it is positively known that other European Red Foxes had been imported previous to 1750. The same is true of Virginia, where the hard-riding gentry of the Old Dominion soon tired of chasing the native Gray, known as a tree-climbing, non-running ringer. Was it not the redoubtable Jorrocks of Handley Cross who compared hunting such a rogue to 'chasing a cat in the kitchen'? From Virginia, the Red Fox, probably by now a cross between the native Red of the north and the English Red of the importations, soon spread southward, even surplanting the Gray in numbers, until now he is found as far south as the pine glades of Georgia.

In New England, the native Red Fox had always been known, although again the English Red Fox is said to have been imported occasionally between 1740 and 1760. Probably such importations were to a far less extent than in the riding districts of Pennsylvania and the South. All records then tend to prove that our native Red existed north of Lat. 40° to 50° previous to white settlement, although he was very scarce in the forest regions of the East and non-existent in the South. As the forests were cut and farm lands appeared, the Red Fox increased in numbers, augmented by cross breeding with the European Fox, then at liberty from New England to Virginia. Today the Red Fox extends from the Atlantic to the Pacific and from the Arctic to a latitude of 32°, with his range steadily increasing. In size he is considerably smaller than the European Fox (Vulpes vulpes) for our fox is seldom more than 10 to 15 pounds in weight against the English dog-fox of 15 to 20 pounds. The American Red Fox is usually about 40 inches long, with a brush of 12 to 14 inches, white tagged. This brush, of course, is essential in winter as a covering for paws and muzzle while sleeping. Wet or bedraggled with mud, however, it often proves a costly handicap when hounds press hard and the going is deep.

In color, our fox shows far more yellow or orange-tawny than his British cousin where red is predominant. Our fox is really more of a golden tint than red, with black legs and white or gray on throat and belly. His fur is long and soft. His muzzle long and sharp. His ears large and usually alert. Linear eye-pupils are a marked characteristic. He has the same number of teeth as a dog, although they are more slender and needle-like in sharpness. A fox's home range is usually about five miles; naturally food scarcity compels a wider range in winter than in summer. Hunted a fox will cover 20 or 30 miles, if necessary, but that is unusual unless hounds have chanced upon an outlying dog-fox come a-courting. In that case, he points for home and probably gives the pack the run of the year.

Foxes are most tenacious of their own country and use some earths or dens for generations. A record of the great earths at Chesterbrook, in Chester county, Pennsylvania, showed some years ago that litters had been there for 73 years. The presence of man, cultivation of surrounding fields, the grazing of cattle and constant hunting by hounds in winter—had no discouraging effect. The sharp bark of a fox at night, followed by the distinctive 'yap-yurr' rising to a sort of scream, was still heard by the valley earths.

The diet of a fox is as varied as it is debated. Some claim, the hunting tribe especially, that the rascal lives on cock-pheasants rabbits, farmers' ducks with a grouse or a woodcock for dessert. The hard-riding hunting clan refute all this and prove by their statistics that the fox maintains a perfect balance in nature living exclusively on field mice, muskrats, insects and all harmful grubs and beetles. In fact, he would seem to be the farmer's one salvation. The truth of the matter is the diet of the fox is as varied as our own and he eats what he can get most readily from season to season. Mice, field mice, actually do serve as his basic ration. Then probably come rabbits, an occasional muskrat and such insects as May-beetles, grasshoppers, grubs, crickets and edible fruits. He is not adverse to berries, especially blue-berries, with an occasional fallen pear or apple.

Proverbs rarely lie. A fox does like grapes. Solomon was right in that. He will vary this diet with poultry, if and when he can get it. Or now and then a game bird, but these are hard for him to catch. He hunts by ear quite as much as by nose, landing most of his prey by pouncing on it, when it is hidden in the grass or when it is in its winter runway just below the surface of the snow. A fox kills more than he needs, storing the surplus in caches which he revisits when hungry. Frequently he finds that these have been raided by birds of prey or other animals. The chief enemies of the American Red Fox are men and boys with traps or guns, wolves, lynx and fishers,—plus the ravages of mange. Hounds and horsemen kill very few, the hunted fox generally going to ground in a rocky den or earth when too closely pressed. His loudest foe, though not a harmful one except as a telltale, is the crow. I have seen a flock of them mob a fox in mid-summer, following his every move through the tangled thickets of Quaker Hill in Lancaster, where it would seem impossible for them to spot him as he crept through the brush below and they flew scolding and screaming far over the tree-tops.

Again and again the countryside repeats authenticated accounts of a fox's unique delousing methods. He is said to take an ear of corn in his jaws or a stick of dry wood or a bit of sheep pelt and then squat in a convenient stream with only his muzzle out of water until the fleas have crawled on to the dry object in his mouth. Such widely known authorities as Ernest Thompson Seton, W. C. Vogt, Peter Kachline and A. R. Benson all vouch for this and state that they have actually seen it. I never have. With such guile, it is no wonder that a fox lives for ten or twelve years and seems rugged and healthy to the end. Foxes are monogamous and mate in late February or March. They usually find a den or earth previously dug by a woodchuck, badger or skunk, enlarging it to suit their own needs. Such an earth always has two or three entrances which serve for ventilation as well as for emergency exists. The runways are about three feet deep and often twenty or thirty feet long. The actual living quarters are always clean and dry, frequently lined with grass or floored with pure white sand, even when no sand appears in the earth above.

Foxes eat either indoors or outdoors, but invariably the dung and offal are removed and the earth and runways kept surprisingly clean. Litters vary from four to nine. The gestation period is 51 days. At time of birth the vixen drives the dog-fox out and he usually contents himself with bringing rations to the earth until the cubs' eyes are open—say nine days. After that he is again admitted to the family circle. The cubs look exactly like kittens at this stage. They stay in the den for three or four weeks and live in it for three months before any real roaming on their part. If watched too closely or in any way

disturbed, the vixen will remove her litter to another earth or to a place with more security from observation.

Cubs are fed very early on rabbit, muskrat, etc. and taught almost as soon as they are able to walk how to stalk and hunt beetles and grubs. I have watched them often at play near the mouth of the earth and marvelled how aptly their frolic fits in with lessons in stalking, freezing, pouncing and so on. As they grow older and stronger, the food brought them by the vixen and the dog-fox is left further from the earth and they are compelled to hunt for it and scent it out. By August, cubs are nearly full grown. Scent, however, is not so strong in them as in fully matured foxes. A fox, in hunting, always faces the wind and takes more or less a regular hunting route beginning at dusk. He revisits his usual haunts and leaves his usual card at signal posts along the way—just as our own dog does. Now and then, in tall grass, he will make a observation leap—one of the loveliest and most graceful things imaginable. Always he holds his course up-wind. When he rests at dawn, it is nearly always on some exposed stump or rock or log—in the sun if in the winter, when he rarely is found indoors in daytime. Nearly all foxes seem to have their habitual routes when hunting or their customary 'points' when being hunted themselves by hounds.

The craft of the fox is proverbial, but probably not at all exaggerated. I have seen a hunted fox slow down before hounds, test the thin ice of a mill pond, cross it at a walk and then sit down on the far side and watch twenty couples of hounds in cry dash out on the thinly frozen surface and break through. Again and again they will back-track. Once I saw a fox break covert from Waynesborough Wood—Mad Anthony's old place—run the length of a meadow, return in his tracks to the edge of the wood, make a great leap sideways, then trot up a small hill to one side of his former route and casually sit down to await results. Hounds came boiling out of the covert, touched on the doubled scent, carried it in their enthusiasm at tremendous pace far beyond where the fox had turned back, then, of course, lost it completely in spite of their huntsman's cast in all directions, for the line had ended at least one field back. During this procedure, the fox sat on the hill above, with his brush curled neatly about his paws watching the scene below. I did not betray him.

Another fox used to run the same line to a loss time after time in the middle of the same meadow at Happy Creek in Radnor county. Finally we found that he had been in the habit of back-tracking, as the Waynesborough one had done, then he would climb a slanting tree trunk and stretch out on a protruding limb, while hounds and horsemen charged beneath him, all unknowing. This was a Red Fox, not a Gray, which always climbs trees. Running walls, following the water of a rainsoaked furrow, crossing streams diagonally or swimming down them, using the foil of ground poached by sheep or cattle, traversing freshly fertilized fields, all are familiar tricks to the hunted fox. They serve him well for he is more than holding his own among us."

Without wishing to interrupt the quiet tranquility of Clifton's foxes the traditional freedom of the American press (although some of this front page "freedom" rather affronts our olfactory nerves) demands that we pass on the news from Sam Wooldridge, Kentucky's noted M.F.H., who received the following note from a friend whom Sam endorses as follows:—"a man I know very well, a mail carrier, honest, upright and has the best hounds money can buy." The remarks of the gentlemen in question read:—"Our foxes are going mad and biting dogs, hogs and men. I never believed it before but I know of over fifty fox that was killed in our country this summer that were mad. They bit several dogs that went mad. It looks as though my county will lose out in foxes." This reminds me of a huntsman who shot a hound for chronic back-tracking and a neophyte in the field asked him if the hound was mad, to which that dignitary replied, "Well, I don't suppose he liked it especially."

WHITETAILS

(Continued from Page 14)

the condition of the yards extremely important. The CCC has provided valuable aid in searching yards in the spring for dead deer. In the Cusino deer experimental project recently mentioned, which has been overbrowsed for a number of years, starved deer were discovered at the rate of 20 to 60 per square mile of yard.

In its plans for the future Michigan has suggested a general outline for management of the deer herd. First, beginning with management of environment including summer and winter habitat. The first consideration is to determine which is of most importance—the deer herd or the timber. In areas where game management is the first consideration forest products are of secondary importance. Where the area is being managed for forest products, practices of game management become less important.

In managing the winter deeryards for the production of more deer, management practices should be directed toward the production of more food. To accomplish this, browse must be kept within reach of the deer. As the available browse is consumed and the lower branches of trees stripped, these trees must be removed to allow reproduction to grow again from the ground. This means cutting the cedar growth on approximately a 25 year rotation. With hardwood browse species, cutting and lopping those tops or shoots which have escaped the deer and have grown up will keep much twig growth coming in from the bottom. These projects must be carried on continually as the trees become mature and are self-pruned or overbrowsed. Manipulation of the winter food is a difficult task; forests cannot be changed in a year as can crops for cattle. Years are required to establish good browse, and if the deer herd is not controlled in coordination the work of many years may be ruined in one winter.

Michigan feels that its deer herd should not be difficult to manage. The fawn crop creates an annual increase and the hunting season allows an opportunity for harvesting the annual surplus. The object in food management is to produce the maximum amount of food annually for long periods, and to keep the herd at a maximum consistent with the sustained carrying capacity of this food. If because of light winters the amount of food increases, then the herd should be allowed to increase. Should a series of severe winters occur and the resident deer herd consume too much food it should be reduced until the food has regained its former condition. Probably it will never be possible to manage the entire deer territory under a general State-wide regulation, as some territories produce food faster than others. The state may need to be zoned and different regulations applied to meet the ever-changing conditions.

The Department of Conservation is being urged by interested organizations and individuals to purchase more and more yarding areas. The yards now in state ownership should be managed for maximum food production by removing the mature or overbrowsed timber to encourage reproduction and produce more food. The cost would be partially returned through the value of timber, poles, posts and wood removed during the thinning operations.

Under present hunting conditions and regulations in Michigan only one buck may be taken by each hunter. The fawn crop is so large that more deer are being added to the herd each year than are being removed by hunting. The herd has already increased beyond the carrying capacity of the winter food in many areas, so it seems that additional arrivals should be removed to reduce the waste from starvation. To accomplish this it seems necessary to introduce hunting regulations through which it is legal to take a limited number of antlerless deer in addition to bucks. Many such regulations have been tried in other states where excessive populations have occurred, and the most workable one seems to be a short season on antlerless deer immediately following the regular buck season in those areas where herd reduction is known to be necessary. This would give the hunter a chance to obtain a buck. If he failed, there would still be a chance to get an antlerless deer after the regular buck season closed.

By introducting these proposals the amount of winter food would be maintained at a maximum. The number of deer in excess of the carrying capacity of the yards would be harvested during the fall hunting seasons, thus eliminating the present waste through starvation. Changes and variations in growth and amounts of food in different regions would be met with the necessary changes in hunting regulations to adjust the size of the deer herd to the amount of food available, thus wasting neither food, through a deer herd that is too small, nor deer, through starvation from overpopulation.



By J. R. MATTERN

EDITOR'S NOTE: *We are pleased to welcome a new author in our midst—a man who has spent years afield, who knows his guns, his ballistics, his cameras, etc. You may or may not agree with everything he says, but in the end everyone will have gained a little more knowledge, we feel sure. Mr. Mattern has been employed by the Lands Division of the Game Commission for a good many years and he hopes to give us a gun talk every month from now on, if at all possible.*

I wonder if a certain very sleek, fat, tawny, dainty doe is alive tonight. She was alive a few months ago.

She came climbing to the top of a hill, in bright sun, with everything dead quiet among open white oak, stepping in the dry leaves with less rustle than a squirrel makes; and she lay down only thirty yards from me.

She had reason to stop. Ten minutes before, three or four thuds of a .30-30 sounded down below in the basin, where I could see the red-brush spread like a carpet. Now, lying there, she had a red bullet graze high on the left hip. From it light colored blood oozed, and dropped off the oily hair in little sparkling balls . . . . .

We maintain our game animals and birds by winter feeding, eliminating predators, raising and stocking them, providing sanctuaries, limiting bags, and by enforcing closed seasons. But there is a seventh line of effort widely neglected. It is conservation of game by cutting down waste of animals and birds by hunters.

Take wild turkeys as an example. Informed woodsmen say that since 4,000 birds bagged in 1938, another 4,000 were fired upon and wounded and likely died later.

If 125,000 deer were brought in last fall, another 25,000 to 50,000 were shot at and not brought in. They were left, like my little doe, with blood spotting the leaves or snow.

The kill of squirrels is reported as 1000 in a certain woodland in the central part of the State that is full of big den trees. But among those tall trees, certainly another 1000 squirrels carried serious wounds out of sight.

Better shooting might save half the turkeys. That's 2,000 more for over the winter—and we are told that on the average 1,600 of that number survive for next season.

Better shooting would conserve thousands of deer—add them to the bag of those returning without venison. It would also conserve rabbits, and grouse. It would reduce your danger in the woods by promiscuous shooting.

The .22 rim-fire high velocity loads are a real advance in squirrel conservation. Those fine sportsmen who use a .22 calibre rifle for squirrels always found the power of the old 800-foot velocity loads a little too light for cleanest kills. The new stuff seems to have almost twice the effectiveness.

In the interest of clean kills, and placed shots with a rifle, heavy or light, it is interesting to determine by actual test firing with your rifle, how much different cartridges will vary in impact.

Five 30-1906 loads, of varying brands and bullets, which were tried the other day, made a 100-yard group 14 inches in diameter. But five-shot groups made by the same man, with the same rifle, using one kind of load for each, averaged 3 inches in diameter.

And how about sighting-in a rifle, anyhow? Is yours exactly lined up for any one kind of ammunition? It's quite a trick to rest them without interferring with the natural flip or vibration of the barrel. You've got to steady the man-wobble in sighting, but you must avoid causing the bullet to fling high or low or to a side. They spend hours teaching you that technique in the army, and at the Camp Perry National matches.

How familiar are you with the range and fall of your bullets? A good way to test your knowledge and your gun is to stand 300 yards away from a safe target and fire one shot at it. Walk forward to 250 yards and fire another shot; and continue at 200 yards, 150 yards, 125 yards, 100 yards and 50 yards. Your good hunting rifle is likely capable of putting all its bullets in the bottom of a tin wash basin in this test. Try it.

It takes months to have a telescope sight mounted and to accustom yourself to using it. Or, rather, let us say, takes months to send your rifle away, get it back, do the shooting to align it for gnat's eyebrow work; and then accustom yourself to thinking of shooting in terms of sharp, precise seeing and aiming. The old slam and bang away is out entirely. This winter and spring is a good time for preliminaries. Next fall will be too late.

Incidentally, the Pennsylvania Game Commission favors the use of telescope sights. They aid in both effective shooting and safety. They show you where and what you shoot.

Half the fun of hunting lies in pleasure derived in the possession and use of good outdoor equipment, from shoes to front sight. Encourage your interest in shooting—do not discourage it. A good tramp over the hills once a month is worth a lot to you, and a lot to your fellow sportsman, through you. It makes you pant, puts sweat on your hat band, and may stiffen your legs after supper. But you live longer.

Every sportsman should make several trips like that each winter and spring. Drive the car to some desirable point and lock it up. Or drop off a through bus or local train. Then strike across the country. Take the gun, and maybe the camera. Wear your hunting license, for there may be crows and other predators.

In the end you'll capture a familiarity with your precision shooting that you can't get in any other way.

THE MAIL BAG

A. R. Wilcox, a buyer of cattle, from Montrose, Pa., writes as follows: "My business is buying cattle, and I am driving through Susquehanna, Wayne, Bradford and Wyoming Counties every day contacting the farmers. This deer business is getting to be a big problem, and the farmers have gotten awfully sick up here. I also belong to a group of fellows who own a camp in Pike County where the animals have gotten more plentiful than ever before. The farmers in Susquehanna, Wayne, Bradford and Wyoming Counties are complaining badly about the damage the deer are doing, and these counties are farming counties and not like Pike County. I think it would be a good idea if you had a buck season next year, then a doe season—in other words alternate. Some hunters think that you should allow them to kill either a buck or a doe, but I think that would be all wrong as there would be too many hunters shot."

Enclosed find my game kill report. I hunted only four or five times in the afternoons and only for squirrels. You see I am something of an invalid, having undergone July 9 last a surgical operation for appendicitis. But my surgeon doctor gave his full consent to "shoulder arms", and you bet I took care of myself, according to his directions. Every time my gun cracked straightway there fell on my ear the sound of that delectable thump which follows a successful hit!

Let me register my appreciation of the fine work done in your Commission. You add greatly to the job of living and to the higher ranges of education. For who can steal into the sylvan aisles and hear the soft sounds of Nature and think the Creator's thoughts after Him without enlarging the bounds of knowledge, feeling and character? Blessings on your heads, gentlemen, and more power to your "bow."—Rev. A. R. Steck, Carlisle, Pa.

BLACK JUDAS

(Continued from Page 7)

chief procedure consisted of faking dives at the cat, with the intention of frightening him into headlong flight. That failing, they soon tired of their power dives, alighted on nearby fenceposts, and contributed inviting targets for our marksmanship.

Shotguns, we found, were not as effective as rifles in this respect. In the first place, we would have to get within fifty yards of our two decoys in order to be consistently effective, and at that close range we attracted so much attention that usually after a half-dozen shots it was all off for the rest of the day.

When using rifles we parked our car from 150 to 200 yards away from the decoys, and, whenever possible, toward the sun from them. Then we would place a blanket over the windows on the sunny side of the car, effectively screening out the light and making ourselves almost invisible in the dark cave so created. The only remaining indication of danger lay in two protruding rifle barrels. Frequently only one of these was showing, as one of us watched proceedings through a pair of binoculars.

Complete immobility was the order of the day immediately following a shot. Then, when the two decoys again recaptured the unanimous attention of the visiting crows, we'd get into position for the next shot.

Gone are the days when we used to drive madly about the countryside, skidding to a stop at every Jim Crow that decorated a fencepost, only to have it go kiting off to safety. Now we let those same Jim Crows come to us and put on a show for our entertainment. Sometimes the show is so good that we spend long minutes forgetting to center the crosshairs on our sable targets. But when we do, the 6x Fecker on Joaquin's Winchester 54 or the 4x Fecker on my custom-barrelled Remington 30S bring our targets up sharp and clear. Then there is a careful squeeze, followed by a whiplike crack, and—if we're fortunate—a similar crack at the point of aim, as high-velocity ammunition makes a shambles of another black egg-thief or nestling-murderer. Judas shrieks in unholy glee, and Joaquin and I grin at each other in self-congratulation.

Judas cursed me as I clipped his flight feathers; then stood off and coldly surveyed his surroundings.





THE CHUKAR PARTRIDGE

(Continued from Page 11)

decided individualist and does not hesitate, during the growing period, to pound and pick his companions with unmerciful persistence. When it reaches maturity it becomes, in captivity, surprisingly tame and shows little fear of man unless deliberately frightened.

Hand-reared Chukars do not live up to their reputation as "the bird that lives on nothing", as they are normally very hearty eaters. Their preferred diet, surprising as it may seem, is quite similar to other members of the Partridge family, and they thrive, during the growing period, on high protein feeds when brooder reared. This suggests the possibility that hand-reared Chukars, with several generations behind them, may prove best for liberation as they are more acclimatized and are raised on feed similar to that which they will find in the Pennsylvania wilds.

The Chukar is very susceptible to Blackhead and Gapes and must be bred and reared on wire. By this method they can be raised with a maximum of success and their inherent hardiness carries them through with minimum loss.

To sum up, we are confronted with a promising yet peculiar newcomer in the Chukar partridge. Whether its many attributes and talents will enable this bird, in defiance of its apparent handicaps, permanently to settle and thrive in Pennsylvania, remains to be determined. However, until the Chukar is given a reasonable experimental trial propagation on a limited scale will be continued.

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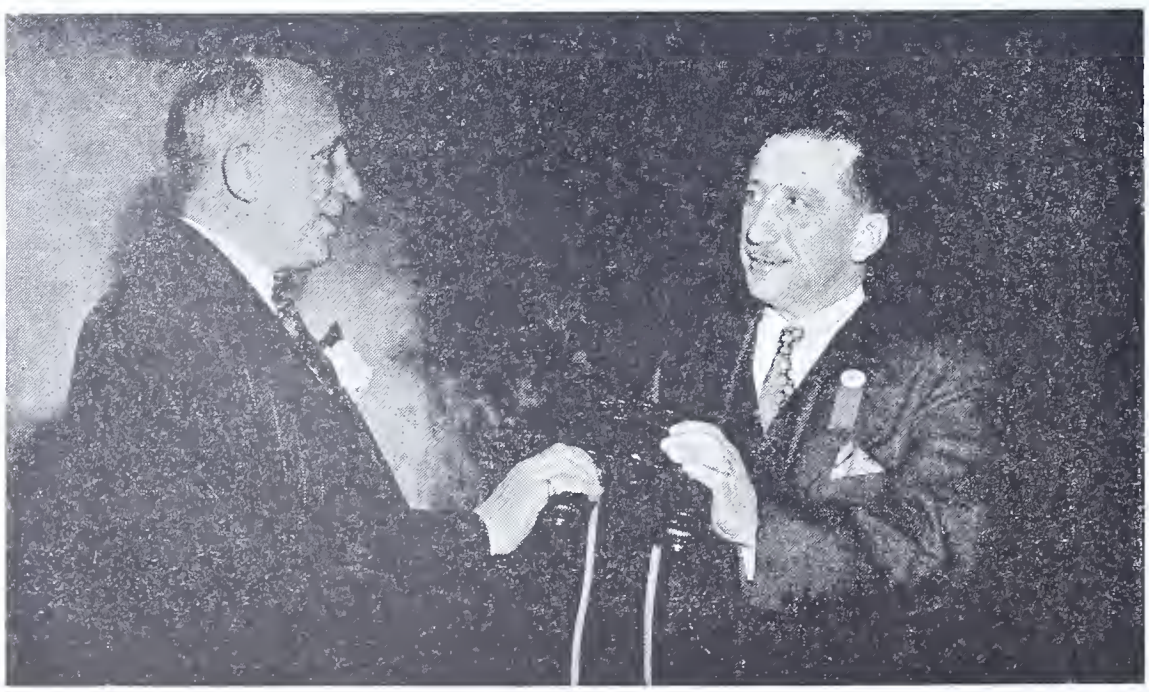


Photo courtesy Phila. Evening Ledger

Wm. Burke receiving pair of binoculars from Pres. Edgar Nicholson at the 57th annual meeting Pa. Fish & Game Protective Association.

Over 900 members and guests attended the 57th annual dinner of the Pennsylvania Fish and Game Protective Association in the beautifully decorated ball room of the Penn Athletic Club at Philadelphia on February 1. The banquet, which started at 6:30, continued until almost one o'clock, the last two hours being devoted almost wholly to the awarding of many valuable prizes contributed by local merchants and other individuals interested in wildlife.

Dr. Ira N. Gabrielson, Chief of the Biological Survey, was the principal speaker, and the keynote of his addresses was "Bringing Back the Ducks."

Other prominent guests at the speaker's table included Marion Sellers, the only living member of the association who joined as a charter member 57 years ago; Dr. William H. Moore, former Game Commissioner and present Chief of the Camp and Trail Club; Adolf Muller, former President of the Game Commission; its present Chief, Colonel Nicholas Biddle; Fish Commissioner Charles A. French and former Chief Nathan Buller; H. A. Stackhouse, Executive Secretary of the Fish Commission; Had Smith of the Federation of Sportsmen's Clubs; Seth Gordon, Executive Director of the Game Commission; Judge Knight of the Montgomery County Sportsmen's Association; Edgar W. Nicholson, toastmaster and President of the Pennsylvania Fish & Game Protective Association; Nelson Peake and Samuel Truscott, members of the Fish Commission; Ira Thomas, ardent sportsman and athletic scout, and Judge Grover C. Ladner, President of the Pennsylvania State Federation of Sportsmen's Clubs and recipient of Pennsylvania's meritorious service medal for his splendid work in behalf of conservation.

G. Earl Thompson, member of the association was awarded the Dr. Charles A. Codman prize for the winning fish story of the year. William Burke, Chief Warden of the association, Chairman of the dinner committee and the one man responsible for the splendid decorations, was presented with a fine pair of binoculars, given as President Nicholson explained "to aid his eyesight in the deer country." Many excellent motion pictures were shown.

The Johnstown Sportsmen's Association recently wound up its 37th annual banquet with over 600 members present. The meeting was held in the banquet room of the Masonic Temple amidst a profusion of appropriate decorations. The principal speakers of the evening included C. William Duncan, nationally-known commentator on sports events and feature writer of the *Philadelphia Evening Ledger*; Hon. Charles French, Commissioner of Fisheries and Leo A. Luttringer, Jr., Editor of the PENNSYLVANIA GAME NEWS, who showed pictures of the "last raft."

E. T. Stone, former ski champion, exhibited some thrilling pictures of winter sports at Sun Valley, Idaho, one of America's greatest winter resorts. There was a splendid musical and dance program, the latter featuring Miss Claire Anderson, Johnstown's High School Sweetheart of 1938, who gave a very clever exhibition of toe, tap and acrobatic dancing.

Over forty prizes were distributed. At the speaker's table were W. W. Campbell, George Gilbert, Ralph Longwell, Assemblyman Walter E. Rose, L. B. Aschom, Hon. Charles French, Leo A. Luttringer, Jr., Dr. Arthur M. Stowe, C. William Duncan, Leo Akers, Dr. J. D. Keiper, Assemblyman H. G. Andrews, E. T. Stone, Dr. E. C. Boyer, Judge Ivan J. McKenrick, Joseph E. Shreve, Harry S. Bender and Rheon C. Hassell.

The Johnstown group expects shortly to plan for the purchase and propagation of ringneck pheasants. It is also planning to form a Junior sportsmen's association, and expects to extend its rabbit trapping program in cooperation with the local Game Protector. Dr. J. D. Keiper, who headed the association for several years, was toastmaster, ably assisted by Leo Akers, present head.

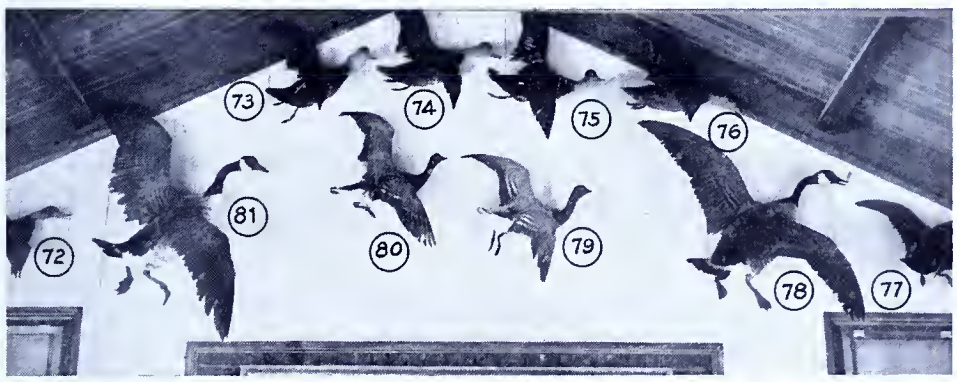
PHOTOS OF EXHIBIT CASES AT PYMATUNING MUSEUM, CRAWFORD COUNTY

EXHIBIT CASE NUMBER 9

OVER END DOOR WAY

Specimen Number	Common Name	Sex	Season Plumage
1	Bald Eagle (Young)	Male	Summer
2	Chukar Partridge	Male	Fall
3	Hungarian Partridge	Male	Fall
4	Hungarian Partridge	Male	Fall
5	Chukar Partridge	Male	Fall
6	Ruffed Grouse	Male	Fall
7	Ring-necked Pheasant	Male	Fall



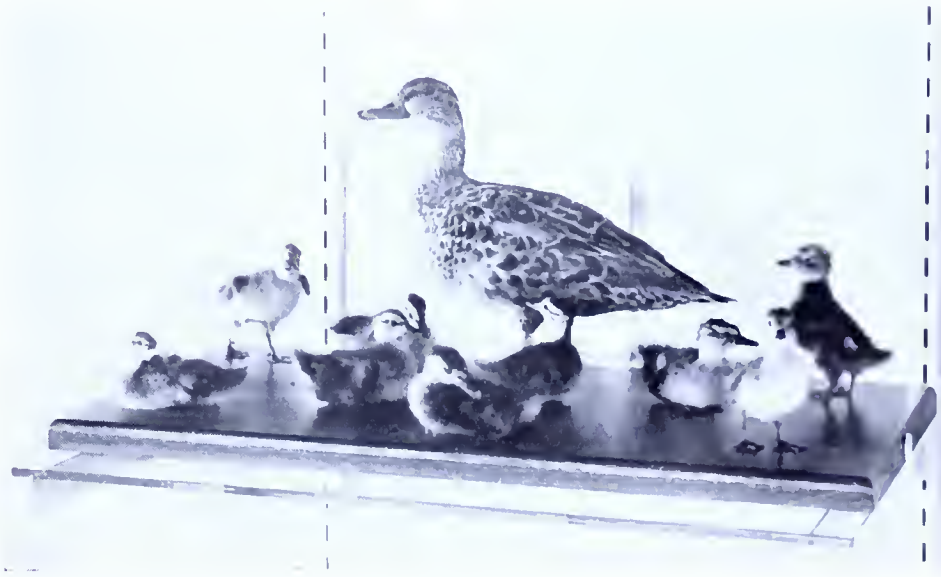


OVER THE FIREPLACE

Specimen Number	Common Name	Sex	Season Plumage
72	Black Duck	Male	Fall
73	Black Duck	Male	Fall
74	Black Duck	Female	Fall
75	Black Duck	Female	Fall
76	Black Duck	Male	Fall
77	Black Duck	Male	Fall
78	Canada Goose	Female	Fall
79	Common Brant	Male	Fall
80	Common Brant	Female	Fall
81	Canada Goose	Male	Fall

EXHIBIT CASE NUMBER 3

Detailed study of Female Blue-winged Teal and Ducklings in Summer Plumage.



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